SRI VASAVI ENGINEERING COLLEGE (Autonomous)

(Permanent Affiliation to JNTUK, Kakinada),
PEDATADEPALLI, TADEPALLIGUDEM-534 101

A.Y: 2025-26

VII SEM CSE Handbook
(V20 Regulation)

Department of Computer Science and Engineering (Accredited by NBA)

Pedatadepalli, Tadepalligudem-534101, A.P

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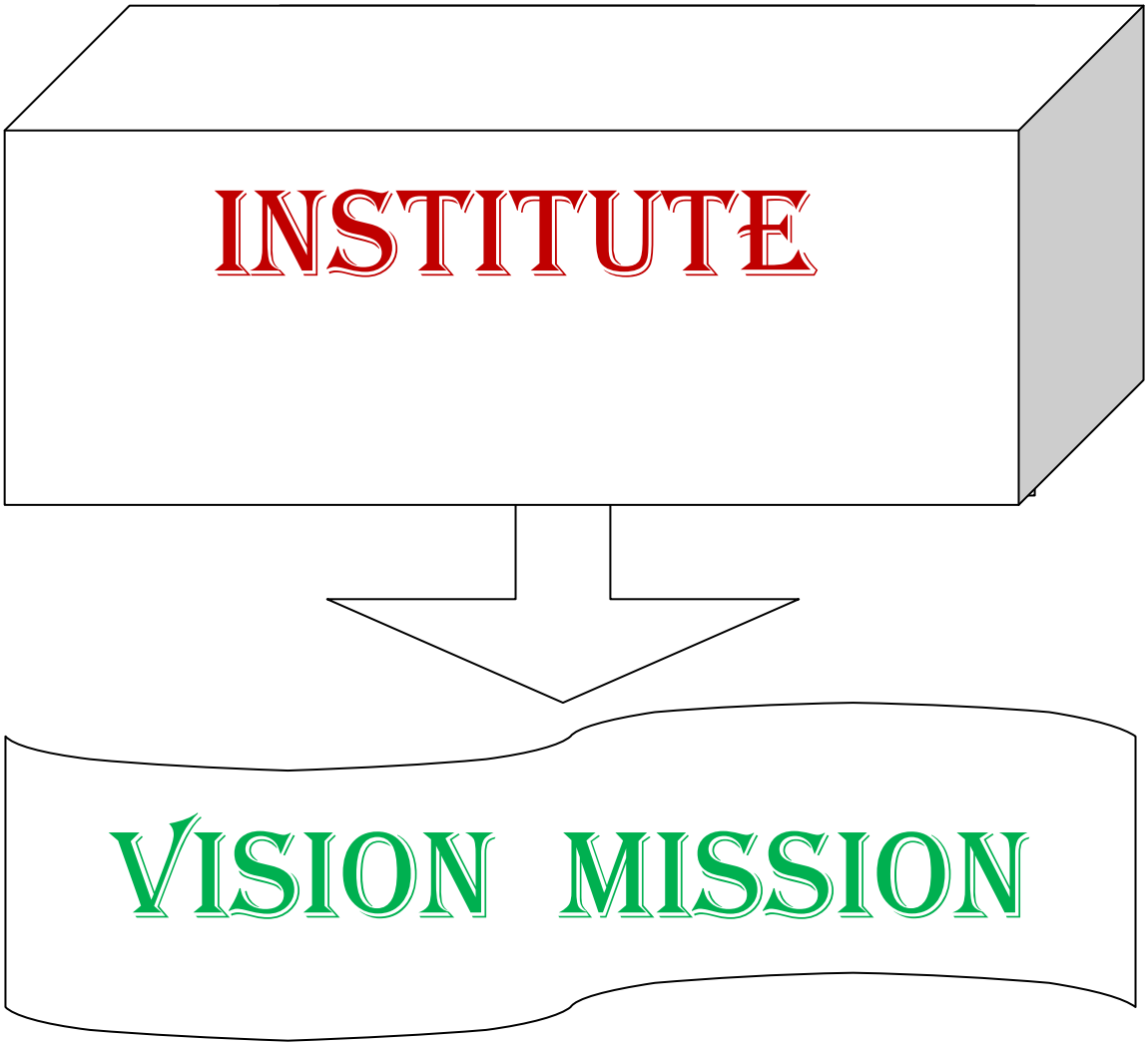
INSTITUTE
VISION MISSION

INSTITUTE

VISION AND MISSION

VISION

To be a premier technological institute striving for excellence with global perspective and commitment to the nation.

MISSION

- To produce engineering graduates of professional quality and global perspective through Learner Centric Education.
- To establish linkages with government, industry and research laboratories to promote R&D activities and to disseminate innovations.
- To create an eco-system in the institute that leads to holistic development and ability for life-long learning..

DEPARTMENT

VISION MISSION

Vision:

- To evolve as a centre of academic and research excellence in the area of Computer Science and Engineering.

Mission :

- To utilize innovative learning methods for academic improvement.
- To encourage higher studies and research to meet the futuristic requirements of Computer Science and Engineering.
- To inculcate Ethics and Human values for developing students with good character.

PROGRAM EDUCATIONAL OBJECTIVES, PROGRAM OUTCOMES & PROGRAM SPECIFIC OUTCOMES

Program Educational Objectives (PEOs): Graduates of this programme will

PEO 1: Adapt to evolving technology.

PEO 2: Provide optimal solutions to real time problems.

PEO 3: Demonstrate his/her abilities to support service activities with due consideration for Professional and thical Values.

Programme Specific Outcomes (PSO s): A graduate of the Computer Science and Engineering Program will be able to

PSO 1: Use Mathematical Abstractions and Algorithmic Design along with Open Source Programming tools to solve complexities involved in Programming. [K3]

PSO 2: Use Professional engineering practices and strategies for development and maintenance of software. [K3]

Program Outcomes (POs):

Computer Science Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of Mathematics, Science, Engineering Fundamentals and Concepts of Computer Science Engineering to the solution of complex Engineering problems. **[K3]**
2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of Mathematics, Natural Sciences and Computer Science. **[K4]**
3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specific needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations. **[K5]**
4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. **[K5]**
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations**.** **[K3]**
6. **The Engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional Engineering practice. **[K3]**
7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. **[K3]**
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice. **[K3]**
9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. **[K6]**
10. **Communication**: Communicate effectively on complex Engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. **[K2]**
11. **Project management and finance**: Demonstrate knowledge and understanding of the Engineering and Management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. **[K6]**
12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. **[K1]**

ACADEMIC CALENDAR

✉ : principal@srivasaviengg.ac.in
svec.a8@gmail.com

☎: 08818- 284344, 355

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)
(Sponsored by Sri Vasavi Educational Society)
(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with 'A' Grade ,Recognized by UGC under section 2(f) & 12(B))
(**NBA** Accreditation to B.Tech., EEE,CSE, ME and ECE Branches for 3 Years)
Pedatadepalli, **TADEPALLIGUDEM** – 534 101. W.G.Dist. (A.P)

Principal's Office
Date: 02-06-2025

Academic Calendar
For IV B.Tech (VII and VIII Semesters) , Academic Year 2025-26

VII Semester			
Description	**From**	**To**	**Weeks**
Commencement of Class Work	**07.07.2025**		
I Unit of Instructions	07.07.2025	30.08.2025	8 W
I Mid Examinations	01.09.2025	06.09.2025	1 W
II Unit of Instructions	08.09.2025	01.11.2025	8 W
II Mid Examinations	03.11.2025	08.11.2025	1 W
Preparation and Practicals	10.11.2025	15.11.2025	1 W
End Examinations	17.11.2025	29.11.2025	2 W
	01.12.2025		
VIII Semester			
Commencement of Internship cum Project Work	**01.12.2025**		
Commencement of Project Work	01.12.2025	21.03.2026	16W
Thesis Submission & Seminar	23.03.2026	28.03.2026	1 W
End Viva-voce Examinations	30.03.2026	04.04.2026	1 W

PRINCIPAL

Copy to : ALL

Vision
To be a premier technological institute striving for excellence with global perspective and commitment to the nation.

Mission
- To produce Engineering graduates of professional quality and global perspective through learner-centric education.
- To establish linkages with government, industry and Research laboratories to promote R&D activities and to disseminate innovations.
- To create an eco-system in the institute that leads to holistic development and ability for life-long learning.

SRI VASAVI ENGINEERING COLLEGE
(Autonomous)
Pedatadepalli, TADEPALLIGUDEM-534 101, W.G. Dist.
Department Of Computer Science &Engineering (Accredited by NBA)

CLASS CONSOLIDATED TIME TABLE

(Academic Year 2025-26) w.e.f. 07.07-2025

Class: VII SEM Section – A Class Coordinator: Mrs. M.N.V. Surekha Room:G-401

Periods	1	2	3	4	1:00PM 2:00PM	5	6	7
Time / Day	(09.30 AM-10.30 AM)	(10.30 AM-11.20 AM)	(11.20 AM-12.10 PM)	(12.10 PM-01.00 PM)		(02.00 PM-02.50 PM)	(02.50 PM-03.40 PM)	(03.40 PM-04.30 PM)
Mon	MS	FST			LUNCH BREAK	DL	SPM	MAIN PROJECT
Tue	DEVOPS	MAIN PROJECT				DEVOPS	DL	SPM
Wed	CC	DEVOPS	DL	MS		FST		
Thu	SPM	SPM	DL	CC		MAIN PROJECT		
Fri	DL	MS	MS	CC		DEVOPS	DEVOPS	CC
Sat	SPM	MAIN PROJECT				MAIN PROJECT	CC	MS

Class: VII SEM Section – B Class Coordinator: Mr. P. Rama Mohan Rao Room: G-101

Periods	1	2	3	4	1:00PM 2:00P	5	6	7
Time / Day	(09.30 AM-10.30 AM)	(10.30 AM-11.20 AM)	(11.20 AM-12.10 PM)	(12.10 PM-01.00 PM)		(02.00 PM-02.50 PM)	(02.50 PM-03.40 PM)	(03.40 PM-04.30 PM)
Mon	DEVOPS	CC	DL	MAIN PROJECT	LUNCH BREAK	CC	MS	MS
Tue	CC	DL	MS	SPM		MAIN PROJECT		
Wed	MS	FST				SPM	DEVOPS	DL
Thu	DL	MAIN PROJECT				MS	CC	DEVOPS
Fri	SPM	DEVOPS	DL	SPM		FST		
Sat	CC	DEVOPS	SPM	PROJECT		MAIN PROJECT		

Class: VII SEM Section – C Class Coordinator: Mr. K. Praveen Kumar Room: G-402

Periods	1	2	3	4	1:00PM 2:00P	5	6	7
Time / Day	(09.30 AM-10.30 AM)	(10.30 AM-11.20 AM)	(11.20 AM-12.10 PM)	(12.10 PM-01.00 PM)		(02.00 PM-02.50 PM)	(02.50 PM-03.40 PM)	(03.40 PM-04.30 PM)
Mon	SPM	FST			LUNCH BREAK	DEVOPS	MS	DL
Tue	CC	SPM	DEVOPS	DL		MAIN PROJECT		
Wed	DL	MS	CC	DEVOPS		FST		
Thu	MS	CC	MAIN PROJECT			DL	SPM	SPM
Fri	SPM	MAIN PROJECT				MS	DL	CC
Sat	MS	MAIN PROJECT				CC	DEVOPS	DEVOPS

Class: VII SEM Section – D Class Coordinator: Mr. E. Hanumam Sai Gupta Room: G-402

Period	1	2	3	4	1:00PM	5	6	7
Time / Day	(09.30 AM-10.30 AM)	(10.30 AM-11.20 AM)	(11.20 AM-12.10 PM)	(12.10 PM-01.00 PM)		(02.00 PM-02.50 PM)	(02.50 PM-03.40 PM)	(03.40 PM-04.30 PM)
Mon	DL	DEVOPS	DEVOPS	MS	LUNCH BREAK	MAIN PROJECT		
Tue	MS	MAIN PROJECT				CC	DL	SPM
Wed	CC	FST				SPM	SPM	MAIN PROJECT
Thu	SPM	MS	DL	MAIN PROJECT		DEVOP	CC	MS
Fri	DL	MS	DEVOPS	CC		FST		

Sat	DEVOPS	SPM	DL	CC		**MAIN PROJECT**

STAFF DETAILS:

S. No.	*Course Code*	*Course Name*	*A*	*B*	*C*	*D*
1.	**V20CSTPE11**	**Elective – III:** Deep Learning **(DL)**	Mr.P. Naga Bhushanam	Mr.P. Naga Bhushanam	Mr.P. Naga Bhushanam	Mr. E. Hanuman Sai Gupta
2.	**V20CSTPE16**	**Elective – IV:** Cloud Computing **(CC)**	Mr. P. Rama Mohan Rao	Mr. P. Rama Mohan Rao	Mr. K. Praveen Kumar	Mr. K. Praveen Kumar
3.	**V20CSTPE17**	**Elective-V:** Software Project Management **(SPM)**	Mr. B Bhasker Murali Krishna	Mr. B Bhasker Murali Krishna	Mr. Sd. Arief	Mr. Sd. Arief
4.	**V20MBT52**	Management Science **(MS)**	Ms. P. Bala Jyothi	Ms. P. Bala Jyothi	Mr. K. Pavan Kumar	Mr. P. Bharath Kumar
5.	**V20CSTJE04**	**Job Oriented Elective –IV:** DevOps	Mrs. M.N.V. Surekha	Mrs. M.N.V. Surekha	Mrs. M.N.V. Surekha	Ms.Ch Naga Padma Latha
6.	**V20CSTJE03**	**Job Oriented Elective –III:** Full Stack Technologies Lab **(FST)**	Mr. Anil Kumar Reddy Tetali / Mr. K Phanindra Brahmaji	Mr. Anil Kumar Reddy Tetali / Mr. K Phanindra Brahmaji	Mr. Anil Kumar Reddy Tetali / Mr. K Phanindra Brahmaji	Mr. Anil Kumar Reddy Tetali / Mr. K Phanindra Brahmaji
7.		**Main Project**	Mrs. M.N.V. Surekha	Mr. Anil Kumar Reddy Tetali	Mr.P. Naga Bhushanam	Ms.Ch Naga Padma Latha

Lab Name	Venue
Full Stack Technologies Lab (FST)	Orange Seminar Hall **(Students Should Carry Laptops during these Sessions)**

Head of the Department

Head of the Department
Dept. of Computer Science & Engineering
Sri Vasavi Engineering College
TADEPALLIGUDEM-534 101

COURSE STRUCTURE

VII - SEMESTER

S.No.	Course Code	Name of the Course		L	T	P	C
1	**Professional Elective-III**		PEC	3	0	0	3
	V20CSTPE09	Advanced Computer Architecture					
	V20CSTPE10	Big Data Analytics					
	V20CSTPE11	Deep Learning					
	V20CSTPE12	Human Computer Interaction					
2	**Professional Elective-IV**		PEC	3	0	0	3
	V20CSTPE13	Design Patterns					
	V20CSTPE14	NoSQL Databases					
	V20CSTPE15	Reinforcement Learning					
	V20CSTPE16	Cloud Computing					
3	**Professional Elective-V**		PEC	3	0	0	3
	V20CSTPE17	Software Project Management					
	V20CSTPE18	Scripting Languages					
	V20CSTPE19	Natural Language Processing					
	V20CSTPE20	Social Networks and Semantic Web					
4		**Open Elective -III / Job Oriented Elective –III**	OEC	3	0	0	3
			JOE	0	0	6	
5		**Open Elective -IV / Job Oriented Elective – IV**	OEC/JOE	3	0	0	3
6	V20MBT52	Management Science	HSS	3	0	0	3
7	V20SOC05	Skill Oriented Course-V*	SOC	1	0	2	2
8	V20CSP02	Mini Project /Internship	Internship	0	0	6	3
			Total	**16**	**0**	**14**	**23**

Total Contact Hours: 30 Total Credits: 23

** The Student need to select one Skill Oriented Course from the given pool of courses.*

LESSON PLANS

Deep Learning

Academic Year : **2025-26** **Programme**: B.Tech
Semester : **VII** **Sections** :A,B,C & D
Name of the Course: **Deep Learning (Elective-III)** **Course Code**: V20CSTPE11

COURSE OUTCOMES (Along with Knowledge Level): After completion of this course, the students will be able to:

S. No.	Course Outcome	BTL
1.	Describe the fundamentals of deep learning.	K2
2.	Illustrate the working of deep feed forward neural networks	K2
3.	Discuss regularization and optimization techniques used in deep neural networks.	K2
4.	Illustrate the working of convolution neural networks.	K2
5.	Explain about recurrent and recursive neural networks.	K2

Text Books:

1. Deep Learning, Ian Goodfellow, YoshuaBengio, and Aaron Courville, MIT Press.

Reference Books:

1. Neural Networks and Deep Learning, Charu C. Aggarwal, Springer.
2. Fundamentals of Deep Learning, Nikhil Buduma, 1st Edition, O'Reilly.

Targeted Proficiency Level (For each course Outcome):

COs		CO1	CO2	CO3	CO4	CO5
Targeted Proficiency Level		60	60	60	60	60
Targeted level of Attainment	Level 3	60	60	60	60	60
	Level 2	50	50	50	50	50
	Level 1	40	40	40	40	40

Lesson Plan:

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO 1	Introduction	K2	1	Lecture	ICT Chalk &Talk
2.		Historical Trends in Deep Learning	K2	2	Lecture	ICT Chalk & Talk
3.		The Many Names and Changing Fortunes of Neural Networks	K2	2	Lecture with Discussion	ICT Chalk & Talk
4.		Increasing Dataset Sizes, Increasing Model Sizes,	K2	2	Lecture	ICT
5.		Increasing Accuracy,	K2	2	Lecture with Discussion	Chalk & Talk
6.		Complexity and Real-World Impact.	K2	2	Lecture	Chalk & Talk
7.	CO 2	Deep Feed forward Networks, Learning XOR	K2	2	Lecture	Chalk & Talk
8.		Gradient-Based Learning, Hidden Units,	K2	3	Lecture	ICT
9.		Architecture Design, and Other Differentiation Algorithms.	K2	2	Lecture	ICT
10.		Back Propagation	K2	3	Lecture	ICT
11.	CO 3	Regularization for Deep Learning: Parameter Norm Penalties	K2	3	Lecture with Discussion	ICT Chalk & Talk
12.		Early Stopping, Dropout; Optimization Strategies and Meta-Algorithms.	K2	3	Lecture	ICT Chalk & Talk
13.		Optimization for Training Deep Models	K2	2	Lecture	Chalk & Talk
14.		How Learning Differs from Pure Optimization, Challenges, Basic Algorithms	K2	3	Lecture	ICT
15.		Parameter Initialization Strategies, Algorithms with Adaptive Learning Rates,	K2	2	Lecture	ICT
16.	CO 4	The Convolution Operation, Motivation	K2	2	Lecture	Chalk &Talk
17.		Pooling, Convolution and Pooling as an Infinitely Strong Prior,	K2	2	Lecture	Chalk &Talk
18.		Variants of Basic Convolution Functions	K2	2	Lecture	ICT Chalk & Talk

19.		Structured Outputs, Data Types, Efficient Convolution Algorithms	K2	2	Lecture with Discussion	ICT Chalk & Talk
20.		Random or Unsupervised Features, The Neuroscientific Basis for Convolutional Networks,	K2	1	Lecture	ICT Chalk &Talk
21.		Convolutional Networks and the History of Deep Learning	K2	2	Lecture	ICT Chalk &Talk
22.	**CO 5**	Unfolding Computational Graphs, Recurrent Neural Networks,	K2	2	Lecture	ICT
23.		Bidirectional RNNs, Encoder-Decoder Sequence-to-Sequence Architectures,	K2	2	Lecture	ICT Chalk &Talk
24.		Deep Recurrent Networks, Recursive Neural Networks,:	K2	2	Lecture with Discussion	ICT Chalk &Talk
25.		The Challenge of Long-Term Dependencies,	K2	3	Lecture with Discussion	ICT Chalk &Talk
26.		Echo State Networks, Leaky Units and Other Strategies for Multiple Time Scales,	K2	3	Lecture with Discussion	ICT Chalk &Talk
27.		LSTM and Other Gated RNNs, Explicit Memory.	K2	3	Lecture	ICT

Total No. of Classes: 60

Cloud Computing

Academic Year: 2025-26 **Programme: B.Tech**
Year/ Semester: VII **Section: A,B,C,D**
Name of the Course: Cloud Computing **Course Code : V20CSTPE16**

Course Outcomes (Along with Knowledge Level): After successful completion of course the student will able to

S. No.	Course Outcome	BTL
1.	Explain the basic concepts of Cloud Computing.	K2
2.	Describe the Virtualization and Migration concepts of Cloud.	K2
3.	Explain the Cloud Application Design Methodologies.	K2
4.	Illustrate the security aspects of Cloud.	K2
5.	Illustrate the SLA management aspects of Cloud.	K2

Text Books:

1. Cloud Computing: Principles and Paradigms, Rajkumar Buyya, James Borberg,Andrzej Goscinski, Wiley Publication.
2. Cloud Computing: A Hands –on Approach, Arshdeep Bahga, Vijay Medisetti, University Press.

Reference Books:

1. Cloud Computing – Web Based Applications That Change the Way you Work and Collaborate Online, Michael Miller, Pearson Education.
2. Cloud Computing: A Practical Approach, Antony T.Velte, Toby J.Velte, Robert Elsenpeter, McGraw-Hill, (2010).

Targeted Proficiency and attainment Levels (for each Course Outcome):

Cos		CO1	CO2	CO3	CO4	CO5
Targeted Proficiency Level		60	60	60	65	60
Targeted level of Attainment	Level 3	60	60	60	60	60
	Level 2	55	55	55	55	55
	Level 1	45	45	45	45	40

Lecture Plan:

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1	CO1	Introduction to OBE, Dissemination of Vision, Mission of the Dept. and PEOs, POs & PSOs of the Programme.		1	Lecture	BB+ICT
2		Define the Cloud Computing and Explain the Types of clouds and Layers in Clouds	K1	2	Lecture with discussion	BB+ICT
3		Identify the Desired features of a Cloud.	K1	1	Lecture	BB+ICT
4		Describe the Infrastructure as a Service Providers (IaaS).	K1	2	Lecture with discussion	BB+ICT
5		Describe the Platform as a Service Providers (PaaS).	K1	2	Lecture with discussion	BB+ICT
6		Identify the Challenges and Risks in Cloud Computing	K2	1	Lecture	BB+ICT
		Total		**9 Hrs**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1	CO2	Outline The Concepts and enabling technologies of cloud computing	K1	1	Lecture	BB
2		Explain the Virtualization and its types.	K2	1	Lecture	BB
3		Describe the need for Load Balancing and Outline the Algorithms used.	K2	1	Lecture	BB
4		Define Replication and its types	K2	2	Lecture	BB
5		Define SDN, and SDN Architecture Key elements	K1	1	Lecture	BB
6		Explain NFV in relationship to SDN and NFV Architecture	K2	2	Lecture with Discussion	BB+ICT
7		Demonstrate the seven step model of migration into a cloud	K2	2	Lecture with Discussion	BB+ICT
8		Discuss the Migration mitigation and Risks.	K2	2	Lecture with Discussion and in class Assignment	BB+ICT
		Total		**12 Hrs**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1	CO3	Outline Verification and Validation activities	K1	1	Lecture	BB
2		Explain the Design Considerations for Cloud Applications.	K2	2	Lecture	BB
3		Explain Reference Architectures for Cloud Applications.	K2	1	Lecture	BB
4		Demonstrate Cloud Application Design Methodologies: SOA	K2	2	Lecture	BB
5		Explain Cloud Component Model.	K2	2	Lecture with Discussion	BB+ICT
6		Demonstrate MVC	K2	2	Lecture with Discussion and in class Assignment	BB+ICT
7		Illustrate Data Storage Approaches.	K2	2	Lecture with Discussion	BB+ICT
		Total		**12Hrs**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1	CO4	Outline **Cloud Security**	K1	2	Lecture	BB
2		Explain the Cloud Security Architecture (CSA).	K2	2	Lecture	BB
3		Interpret Authentication, Authorization, and Identity.	K2	3	Lecture	BB
4		Explain Access Management.	K2	2	Lecture	BB
5		Demonstrate Data Security, Key Management	K2	2	Lecture with Discussion and in class Assignment	BB+ICT
		Total		**10 Hrs**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1	CO5	Outline SLA **Management in Cloud Computing**	K1	1	Lecture	BB
2		Explain the Service Level Agreements (SLA).	K2	2	Lecture	BB
3		Interpret Traditional Approaches to SLO Management.	K2	2	Lecture	BB
4		Explain Types of SLA.	K2	2	Lecture	BB
5		Discuss Life Cycle of SLA	K2	1	Lecture with Discussion and in class Assignment	BB+ICT
6		Demonstrate SLA Management in Cloud	K2	2	Lecture with Discussion	BB+ICT
		Total		**10 Hrs**		

Total No. of Classes: 53

Software Project Management

Academic Year: 2025-26 **Programme: B.Tech**
Year/ Semester: VII **Section: A,B,C,D**
Name of the Course: Software Project Management **Course Code :V20CSTPE17**

Course Outcomes (Along with Knowledge Level): After successful completion of course the student will able to

S. No.	Course Outcome	Knowledge Level
1.	Describe Software Project Management Terminology.	K2
2.	Explain various Software development process models and Software Lifecycle phases.	K2
3.	Illustrate various Effort Estimation Techniques and activity network models for Project Planning.	K3
4.	Demonstrate Risk Management Concepts and resource allocation.	K3
5.	Explain importance of project monitoring and control for accomplishing project goals and software quality.	K2

Text Books:

1. Software Project Management, Bob Hughes & Mike Cotterell, 6th edition, TATA Mcgraw-Hill
2. Software Project Management, WalkerRoyce 2nd edition, Pearson Education.

Reference Books:

1. Software Project Management in practice, PankajJalote, 9th edition, Pearson Education.
2. Software Project Management, Joel Henry, 3rd edition, Pearson Education.JAVA one step ahead, Anitha Seth, B.L.Juneja, Oxford.

Targeted Proficiency and attainment Levels (for each Course Outcome):

Cos		CO1	CO2	CO3	CO4
Targeted Proficiency Level		60	60	60	60
Targeted level of Attainment	Level 3	70	70	70	70
	Level 2	65	65	65	65
	Level 1	60	60	60	60

Lecture Plan

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours Required	Pedagogy	Teaching Aids
1.	CO1	Explain the difference between software and other projects	K2	1	Lecture-Based Learning	ICT
2.		Describe key activities in software project management	K2	1	Lecture-Based Learning	ICT
3.		Classify software projects based on size, complexity, etc.	K2	1	Collaborative Learning	ICT
4.		Identify stakeholders and their roles	K2	1	Collaborative Learning	ICT
5.		Define project goals and objectives	K2	2	Q&A Session	ICT
6.		Understand the meaning of management in project context	K2	1	Lecture-Based Learning	ICT
7.		Apply stepwise planning model	K2	2	Problem-solving	ICT
8.		Identify scope and infrastructure of a project	K2	1	Project-Based Learning	ICT
9.		Define project deliverables and milestones	K3	2	Lecture + Q&A	ICT
10.		Estimate effort for initial planning	K2	1	Hands-on	ICT
		Total		**12**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours Required	Pedagogy	Teaching Aids
1.	CO2	Compare build vs. buy approaches	K2	1	Debate	ICT
2.		Describe the Waterfall model and its phases	K2	1	Lecture-Based Learning	ICT
3.		Explain Prototyping model and its use cases	K2	1	Lecture + Case Study	ICT
4.		Describe Incremental delivery with examples	K2	1	Discussion	ICT
5.		Understand Agile principles	K2	2	Video + Discussion	ICT
6.		Describe XP practices and values	K2	1	Role Play	ICT
7.		Illustrate the Atern (DSDM) method	K2	1	Lecture-Based Learning	ICT
8.		Select suitable model for a given project	K2	1	Case Analysis	ICT
9.		Describe Engineering and Production stages	K2	1	Lecture-Based Learning	ICT
10.		Explain Inception and Elaboration phases	K2	1	Lecture-Based Learning	ICT
11.		Explain Construction and Transition phases	K2	1	Lecture + Case Study	ICT
		Total		**12**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours Required	Pedagogy	Teaching Aids
1.	CO3	Explain purpose of estimation	K3	1	Lecture-Based Learning	ICT
2.		Describe function point analysis	K3	1	Lecture-Based Learning	ICT
3.		Apply FPA to a small project	K3	2	Exercise	ICT
4.		Explain the COCOMO model	K3	1	Lecture-Based Learning	ICT
5.		Estimate effort using COCOMO	K3	2	Tutorial	ICT
6.		Explain purpose of activity planning	K3	1	Lecture-Based Learning	ICT
7.		Create activity network diagram	K3	2	Hands-on	ICT
8.		Perform forward and backward pass	K3	1	Practice	ICT
9.		Identify critical path and float	K3	1	Problem-Based Learning	ICT
10.		**Total**		**12**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours Required	Pedagogy	Teaching Aids
1.	CO4	Define project risk and its categories	K3	1	Lecture-Based Learning	ICT
2.		Identify project risks	K3	1	Group Activity	ICT
3.		Assess risks: probability & impact	K3	1	Case-Based Teaching	ICT
4.		Develop a risk mitigation plan	K3	2	Workshop	ICT
5.		Apply PERT for uncertainty handling	K3	2	Tutorial	ICT
6.		List types of resources (human, tech, etc.)	K3	1	Lecture-Based Learning	ICT
7.		Identify and allocate resources	K3	2	Active Learning	ICT
8.		Perform resource scheduling	K3	2	Lab Session	ICT
		Total		**12**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours Required	Pedagogy	Teaching Aids
1.	CO5	Define monitoring & control framework	K2	1	Lecture-Based Learning	ICT
2.		Collect and visualize project data	K2	2	Demo + Practice	ICT
3.		Understand cost monitoring process	K2	1	Lecture-Based Learning	ICT
4.		Apply Earned Value Analysis (EVA)	K2	2	Problem-solving	ICT
5.		Define and explain software quality	K2	1	Lecture-Based Learning	ICT
6.		Explain ISO-9126 quality model	K2	1	Lecture-Based Learning	ICT
7.		Compare product vs process quality	K2	1	Collaborative Learning	ICT
8.		Describe CMM levels and maturity models	K2	2	Lecture-Based Learning	ICT
9.		Recommend quality improvement strategies	K2	1	Case-Based Teaching	ICT

Total No. of Classes: 60

Management Science

Academic Year: 2025-26 **Programme: B.Tech**
Year/ Semester: VII **Section: A,B,C,D**
Name of the Course: Management Science **Course Code : V20MBT52**

Course Outcomes (Along with Knowledge Level): After successful completion of course the student will able to

S. No.	CO No.	Course Outcome	BTL
1.	CO1	Clarify various approaches to Management.	K2
2.	CO2	Illustrate the principles and practices of operations management.	K3
3.	CO3	Describes the dynamics of individual and interpersonal behavior in organizational setting through human resource management.	K2
4.	CO4	Develop the efficient Decision-making abilities for the benefit of organization.	K3
5.	CO5	Explains the better strategic management for organizational effectiveness.	K2

Text Books:

1. Dr. P. Vijayakumar & Dr. N. Apparao, Management Science, Cengage, Learning, 2012.
2. Dr.AR.Arysri , Management Science,TMH2011.

Reference Books:

1. Philip Kotler & Armstrong: Principles of Management, Pearson publications.
2. Hitt and vijayakumar: strategic Management, cengage learning

Targeted Proficiency and attainment Levels (for each Course Outcome):

Cos		CO1	CO2	CO3	CO4	CO5
Targeted Proficiency Level		60	60	60	60	60
Targeted level of Attainment	Level 3	60	60	60	60	60
	Level 2	55	55	55	55	55
	Level 1	50	50	50	50	50

Lecture Plan:

S. No.	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours Required	Pedagogy	Teaching aids
1.	CO1	Definitions of management,	K1	1	Lecture	BB
2.		Describe the Functions of management.	K1	2	Lecture	BB
3.		Evaluation of management thought	K2	2	Lecture+ discussion	BB
4.		Explain Theories of motivation.	K2	2	Lecture	BB
5.		Decision-making process	K2	1	Lecture + discussion	BB
6.		Types of organization structures	K2	1	Lecture + discussion	BB
7.		State the International Management structure.	K2	2	Lecture + discussion	BB
1.	CO2	Plant Location and Layout	K1	1	Lecture	BB
2.		Work Study and Statistical Quality Control.	K2	2	Lecture + discussion	BB
3.		Control charts (P- chart, R chart, and C chart)	K3	2	Lecture + discussion	BB
4.		Explain the concept of Material Management	K2	1	Lecture + discussion	BB
5.		Need for inventory control	K2	2	Lecture + discussion	BB
6.		EOQ, ABC analysis simple problems and Types of ABC analysis.	K3	3	Lecture + discussion	BB
1.	CO 3	Concept of HRM, HRD and PMIR	K1	1	Lecture	BB
2.		Functions of HR manager	K2	2	Lecture + discussion	BB
3.		Job Analysis	K2	1	Lecture + discussion	BB
4.		Job Evaluation and Merit Rating methods.	K2	2	Lecture + discussion and	BB+PPT
5.		Marketing Management, Functions of Marketing	K2	1	Lecture + discussion	BB
6.		Four Ps of marketing, New product Development	K2	1	Lecture + discussion	BB
7.		Product life cycle, Service Marketing	K2	2	Lecture + discussion and	BB+PPT
1.	CO 4	Construction of Network	K2	3	Lecture+ discussion	BB
2.		Difference between PERT and CPM and Problems	K2	4	Lecture + discussion and In-class Assignment	BB
3.		Compute Critical path, Probability, Project crashing (Simple problems)	K3	4	Lecture + discussion	BB

1.		Describe Vision, Mission, Goals and Strategy.	K2	2	Lecture + discussion	BB
2.		Describe Strategic Management Process	K2	2	Lecture + discussion	BB
3.		Discuss Corporate Planning	K2	2	Lecture + discussion and In-class Assignment	BB+PPT
4.		Explain Environmental Scanning	K2	1	Lecture	BB
5.		Describe SWOT analysis.	K2	1	Lecture + discussion and In-class Assignment	BB+PPT
6.		Describe the Concept of ERP	K2	1	Lecture + discussion and In-class Assignment	BB+PPT
7.	**CO5**	Describe the concept of Total Quality Management	K1	1	Lecture	BB
8.		Describe the concept of Six sigma	K2	1	Lecture + discussion	BB
9.		Describe the concept of Supply chain Management.	K2	1	Lecture	BB
10.		Describe the concept of Business process out sourcing	K2	1	Lecture + discussion	BB
11.		Explain Lean Start-ups and Entrepreneurship	K2	1	Lecture + discussion and In-class Assignment	BB+PPT

Total No. of Classes: 57

Full Stack Technologies

Academic Year: 2025-26 **Programme: B.Tech**
Year/ Semester: VII **Section: A,B,C,D**
Name of the Course: Full Stack Technologies **Course Code : V20CSTJE03**

Course Outcomes (Along with Knowledge Level): After successful completion of course the student will able to

S. No.	CO No.	Course Outcome	BTL
1.	CO1	Demonstrate IDE tools Installation	K3
2.	CO2	Develop programs using servlets.	K3
3.	CO3	Illustrate MVC architecture.	K3
4.	CO4	Demonstrate applications of Hibernate.	K3
5.	CO5	Illustrate Spring MVC Framework.	K3

Reference Books:

1. Jeffrey C. Jackson, "Web Technologies--A Computer Science Perspective", Pearson Education, 2006.
2. Murach's Java Servlets and JSP, 3rd Edition by (Murach: Training & Reference) 3rd Edition.
3. Spring and Hibernate Paperback – 1 July 2017 by K. Santosh Kumar.
4. Full Stack Java Development with Spring MVC, Hibernate, jQuery, and Bootstrap by Mayur Ramgir, Wiley.

Targeted Proficiency and Attainment Levels (for each course Outcome):

Cos		CO1	CO2	CO3	CO4	CO5
Targeted Proficiency Level		70	70	70	70	70
Targeted level of Attainment	Level 3	70	70	70	70	70
	Level 2	60	60	60	60	60
	Level 1	50	50	50	50	50

Lecture Plan:

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO 1	Dissemination of COs	-	1	Lecture With Discussion	ICT
2.		Basic Installation of IDEs and Development Tools	K3	2	Lecture With Discussion	ICT ICT
3.						ICT
		Total		**3**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO 2	• Introduction to Servlets. • Develop Servlet application to print current date & time. • Develop Servlet program to link Html & Servlet Communication. • Develop Servlet program to Auto refresh a page. • Demonstrate session tracking u Develop Servlet program to insert/delete/update the record into database. • Develop Servlet program to add cookie to selected value	K3	9	Lecture With Discussion	ICT
2.						
		Total		**9**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO 3	• Introduction to MVC in java. • Develop sample program on Model Layer in MVC Using Java. • Develop sample program on View Layer in MVC Using Java. • Develop sample program on Controller Layer in MVC Using Java. • Demonstrate MVC deployment in java. • Rules for MVC Mapping in Server Side. • How to use Web Server for MVC Deployment.	K3	9	Lecture with Discussion	ICT
2.						
		Total		**9**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO 4	• Introduction to Hibernate. • What is ORM?Demonstrate the components of Hibernate • How to persist objects using Hibernate and how to use map using XML and Annotations • How to implement Inheritance in Hibernate • Working with relationship between entities-association • Transactions in Hibernate • Querying with HQL (Hibernate Query Language) • Various other forms of querying - Criteria, QBE etc.	K3	12	Lecture with Discussion	ICT
2.						
		Total		**12**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	**CO 5**	• Introduction to Spring MVC. • Demonstrate the usage of Dispatcher Servlet in Spring MVC. • Load the spring jar files or add dependencies in the case of Maven. • Create the controller class. • Provide the entry of controller in the web.xml file. • Define the bean in the separate XML file. • Display the message in the JSP page. • Start the server and deploy the project. • Execute the application on webserver using Spring MVC. • Understanding Some Debugging Tools in Java NetBeans, Eclipse, IntelliJ IDEA, Visual Studio Code.	K3	9	Lecture with Discussion	ICT
		Total		**9**		

Total No. of Classes: 42

DevOps

Academic Year: 2025-26 **Programme: B.Tech**
Year/ Semester: VII **Section: A,B,C,D**
Name of the Course: DevOps **Course Code : V20CSTJE04**

Course Outcomes (Along with Knowledge Level): After successful completion of course the student will able to

S. No.	CO No.	Course Outcome	BTL
1.	CO1	Discuss the traditional software development.	K2
2.	CO2	Discuss the concepts of rise of agile methodologies.	K2
3.	CO3	Discuss the concept of DevOps and Agile.	K2
4.	CO4	Demonstrate the purpose of DevOps.	K3
5.	CO5	Illustrate the Operations of CAMS.	K2

Text Books:

1. The DevOps Handbook - Book by Gene Kim, Jez Humble, Patrick Debois, and Willis.

Reference Books:

1. What is DevOps? - by Mike Loukides.

Targeted Proficiency and attainment Levels (for each Course Outcome):

Cos		CO1	CO2	CO3	CO4	CO5
Targeted Proficiency Level		65	65	60	60	60
Targeted level of Attainment	Level 3	60	60	60	60	60
	Level 2	50	50	50	50	50
	Level 1	40	40	40	40	40

Lecture Plan:

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO1	Introduction to OBE, Dissemination of Vision, Mission of the Dept. and PEOs,POs & PSOs of the Programme.		1	Lecture	BB
2.		Describe the software crisis problem.	K1	1	Lecture	BB
3.		Identify the historical aspects of software development.	K1	1	Lecture	BB
4.		Discuss the importance and challenges of software engineering.	K2	2	Lecture with discussion	BB
5.		Explain the phases in software development life cycle.	K2	1	Lecture	BB+ICT
6.		Describe the characteristics of good software.	K1	1	Lecture	BB+ICT
7.		Explain in detail waterfall model.	K2	2	Lecture with Discussion and in class Assignment	BB+ICT
8.		Explain the conflicts between developers and IT operations.	K2	1	Lecture	BB+ICT
		Total		**10**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO2	Outline the growth of agile methodologies.	K1	1	Lecture	BB
2.		Describe the principles of agile methodology.	K1	1	Lecture	BB
3.		Explain the benefits of agile methodology.	K2	1	Lecture	BB
4.		Discuss extreme programming agile model	K2	1	Lecture	BB+ICT
5.		Explain scrum and DSDM agile models.	K2	2	Lecture	BB+ICT
6.		Explain the pros and cons of agile methodologies over waterfall model.	K2	2	Lecture with discussion and in class Assignment	BB+ICT
7.		Discuss iterative agile development.	K2	2	Lecture	BB+ICT
8.		Explain the agile core values of Individual and team interactions and delivering working software.	K2	1	Lecture	BB
9.		Describe the importance of Customer collaboration and handling change request in agile.	K1	1	Lecture	BB
		Total		**12**		

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO3	Define Devops and their purpose.	K1	2	Lecture	BB
2.		Describe the life cycle of Devops.	K2	2	Lecture with Discussion and in class Assignment	BB+ICT
3.		Explain the benefits of Devops.	K2	1	Lecture	BB+ICT
4.		Describe the key components of Devops culture.	K2	2	Lecture	BB
5.		Explain the similarities between Devops and agile.	K2	2	Lecture	BB+ICT
6.		Explain the differences between Devops and agile.	K1	2	Lecture with Discussion and in class Assignment	BB+ICT
		Total		**11**		

Unit- IV

S. No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO4	Define Minimum Viable Product.	K1	1	Lecture	BB
2.		Explain the process to build MVP.	K2	1	Lecture	BB
3.		Explain the advantages and drawbacks of MVP.	K2	2	Lecture	BB
4.		Differentiate MVP and Prototype.	K2	2	Lecture	BB+ICT
5.		Demonstrate the process of Continuous Integration	K3	2	Lecture	BB+ICT
6.		Explain the benefits of Continuous Integration	K2	1	Lecture	BB+ICT
7.		Demonstrate the role of Devops for CI.	K3	2	Lecture with Discussion and in class Assignment	BB+ICT
8.		Define the need of continuous delivery	K1	1	Lecture	BB+ICT
9.		Differentiate continuous delivery and continuous deployment.	K2	2	Lecture	BB+ICT
		Total		**14**		

Unit-V

S.No	Course Outcome	Intended Learning Outcomes (ILO)	Knowledge Level of ILO	No. of Hours	Pedagogy	Teaching aids
1.	CO5	Explain the core values (CAMS) of Devops.	K2	2	Lecture	BB+ICT
2.		Define Test driven development and its benefits.	K1	1	Lecture	BB
3.		Explain Test driven development process.	K2	1	Lecture	BB
4.		Differentiate traditional configuration management and Devops configuration management .	K2	1	Lecture	BB+ICT
5.		Describe the benefits of Devops configuration management.	K1	1	Lecture	BB
6.		Discuss the challenges in infrastructure automation in Devops.	K2	1	Lecture with Discussion and in class Assignment	BB+ICT
7.		Describe the benefits of infrastructure as a code in Devops.	K1	1	Lecture	BB
8.		Define root cause analysis.	K1	1	Lecture	BB
9.		Explain how to perform root cause analysis.	K2	1	Lecture	BB+ICT
10.		Explain how to run blamelessness post-mortem.	K2	1	Lecture	BB+ICT
11.		Discuss the importance of organizational learning.	K2	1	Lecture	BB+ICT
		Total		**12**		

Total No. of Classes: 58