



**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL**

(An Autonomous Institute under Kakatiya University, Warangal)

Approved by AICTE & Accredited by NBA, New Delhi.

Address: Opp. Yerragattu Hillock, Bheemaram, Hasanparthy, Warangal-506015 (T.S.)

*Department of Information Technology*

Presents...

*A Technical Magazine*



*Issue 7, April 2018*

Final Year passed out batch (2017-18) of B.Tech students Group Photo with Faculty



**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE**

Warangal – 506 015, Telangana, INDIA. (An *AUTONOMOUS INSTITUTE* under Kakatiya University, Warangal)

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - 506 015.

## Editorial Board

### 1. Faculty

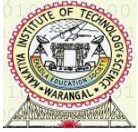
S.No.	Responsibility	Name of the Faculty	Designation
1.	Chief Editor	Dr.P.Kamakshi	Professor &Head, Dept. of IT
2.	Faculty Editor	Sri T.Mahesh Kumar	Assistant Professor, Dept. of IT

### 2. Students

Sl.No.	Name of the Student	Roll Number
1.	G.Sumana	B14IT049
2.	V.Shreyanth	B14IT031
3.	M.Sai Geetha Reddy	B14IT029
4.	B.Anusha	B14IT028

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**DEPARTMENT OF INFORMATION TECHNOLOGY**

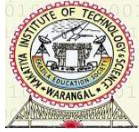


Dr. Y. Manohar  
Director

**Message**

On behalf of our entire staff, it is a pleasure to welcome you to KITS Warangal. I hope you will take a moment to read through our mission and goals. We strive to provide services and programs that will aid in the professional development of our students to make them strong candidates for our local, state, national and international workforce as well as graduate and professional school programs around the world. We also serve as a resource for our colleagues on campus by providing open and equitable referral and recruiting systems that meet the legal and ethical guidelines for colleges and universities. Finally, it is our pleasure to provide services for employers that make it easy to find the best and the brightest students in the country for internships and full-time positions.

As the director of KITS Warangal, it is a privilege for me to work with a staff of distinguished career professionals including career counselors, employer relations specialists, administrators and technical/information systems support. Together we creatively address issues and look for innovative approaches to meeting the needs of all of our constituency groups. If you have any comments or suggestions, please do not hesitate to contact me.



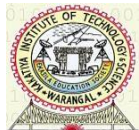
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Dr P.Venkateswara Rao  
Principal

**Message**

I Congratulate the Department of Information Technology for bringing out *BITWISE*, a Technical Magazine of the Department. It is a great initiative and I feel that such a Technical Magazine is very well required as it showcases the Strength of the Department faculty in research and inspires the Student Community towards research. I hope this Magazine will be well received by the Student Community and Faculty.



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Dr. P. Kamakshi  
(HOD)

**Message**

It gives me an immense pleasure to present fourth issue of BITWISE Magazine from Dept of IT. The past year was full of various activities by the students and faculty in academic, co curricular, extra-curricular as well as research & developments. We are proud of the accomplishments of our alumni for their achievements in academic, higher studies and placements in fastest-growing IT companies. Faculty members published research papers on complex issues in various fields of computer science and Information technology. It is our aim to educate and inform anyone who has an interest in latest technologies and upcoming research directions in the field of computers. Throughout the Magazine you will see articles on the varied aspects of technical as well as non-technical topics from students and faculty members.

We welcome your feedback and would like to hear what you think of the BITWISE Magazine.

### Department Profile

The Department of Information Technology was established in the year 1999. The Department offers a four year course of B.Tech. Degree in the Information Technology, with an annual intake of 60 students. The Department has got NBA accreditation from June 2016. The Hallmark of I.T. Department is to develop technologically competent IT professionals in today's IT centered scenario. The strength and facilities of the department are increasing year by year. Well qualified experience and committed faculty members is an asset to the Department. The Department has well equipped laboratories and WI-FI support to cater the needs of the students. The Department conducts National level technical symposium in every academic year and organizes several training programs for both students and faculty members to get acquainted with the cutting edge technologies emerging day by day. Students of IT Department have made remarkable achievements both in academics and sports as well.



## VISION AND MISSION OF DEPARTMENT

### **VISION:**

To become a Center of Excellence in the Information Technology discipline with effective teaching and strong research environment that makes our students globally competitive with strong ethical values and leadership abilities.

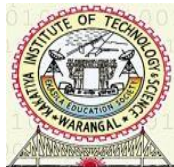
### **MISSION:**

- To impart technical knowledge to the students to turn out proficient and well groomed engineers.
- Motivate students to improve skills by attending training programs and internships that leads to develop innovative projects in emerging technologies.
- To train our graduates for higher education, leadership in profession and adopt quality research.

## Programme Outcomes (POs):

*Engineering Graduates will be able to:*

<b>PO1</b>	<b>Engineering Knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
<b>PO2</b>	<b>Problem Analysis :</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
<b>PO3</b>	<b>Design/Development of Solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
<b>PO4</b>	<b>Conduct Investigations of Complex Problems:</b> 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.
<b>PO5</b>	<b>Modern Tool Usage:</b> 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
<b>PO6</b>	<b>The Engineer and Society:</b> 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.
<b>PO7</b>	<b>Environment and Sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
<b>PO8</b>	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
<b>PO9</b>	<b>Individual and Team Work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
<b>PO10</b>	<b>Communication:</b> 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.
<b>PO11</b>	<b>Project Management and Finance:</b> 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
<b>PO12</b>	<b>Life-Long Learning:</b> 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.



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**Programme Educational Objectives of the Course:**

- To provide students with a sound foundation in Information Technology theory and practices to analyze, formulate and solve engineering problems.
- To develop an ability to design algorithms, implement programs and deploy software.
- To develop Information Technology solutions with the changing needs of the society for the career-related activities.

**Programme Specific Outcomes of the Course:**

- Apply analytical and experimental problem-solving skills in the Information Technology discipline
- Use fundamental knowledge to investigate new and emerging technologies leading to innovations in the field of Information Technology.
- Begin immediate professional practice as an Information Technology Engineer.



# Kakatiya Institute of Technology & Science, Warangal-15

(An Autonomous Institute under Kakatiya University, Warangal.)

## DEPARTMENT OF INFORMATION TECHNOLOGY

Teaching Faculty, Non-Teaching & Support Staff

### TEACHING FACULTY

S.No.	Name of the faculty	Designation
1.	Dr. P. Kamakshi	Professor & Head
2.	G.K.Shailaja	Associate Professor
3.	B.Kiran Kumar	Associate Professor
4.	A.Bhaskar	Associate Professor
5.	Y.Bhavani	Associate Professor
6.	P.Sudharshan Ray	Assistant Professor
7.	V.Sunitha	Assistant Professor
8.	S.B.Swathi	Assistant Professor
9.	M.V.Phanindra	Assistant Professor
10.	M.Kishore	Assistant Professor
11.	R.Gautam	Assistant Professor
12.	P.Suma	Assistant Professor
13.	T.Mahesh Kumar	Assistant Professor

### NON-TEACHING & SUPPORT STAFF

S.No.	Name of the faculty	Designation
1.	M.Srilatha Devi	Programmer
2.	Ch.Devender	Programmer
3.	K.Shailaja	Jr. Assistant
4.	K.Mahender	Attender

**Research Publications of faculty :****G.K.SHAILAJA****Conference:**

1. Presented a paper, "Aggregation Queries for Big Data Analysis", in 12th International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC) held during 28<sup>th</sup> and 29<sup>th</sup> January 2018 at priyadarshini Engineering college, Chennai.

**Y.BHAVANI****Journal:**

1. Published a paper, "Survey on Packet Marking Algorithms for IP Traceback" in Oriental Journal of Computer Science and Technology, ISSN: 0974-6471, Vol.10, Issue 2, June 2017, pp.507-512.

**Journal with Student:**

1. Published a paper, "Android based Student Reminder System" in Oriental Journal of Computer Science and Technology, ISSN: 0974-6471, Vol.10, Issue 4, Dec 2017, pp.760-764.

**V.SUNITHA****Journals:**

1. Published a paper, "A Novel encryption Algorithm to Enhance Database Security" in International Journal of Research in Information Technology(IJRIT), ISSN: 2001-5569, Vol.5, Issue 6, June 2017, pp.45-49.
2. Published a paper, "Discovering User-Item Subgroup and Predicting Domain-Specific Correlations in Recommendation Approaches by Using DsRec Algorithm", in International Journal o Innovative Research in Science, Engineering and Technology(IJIRSET), ISSN: 2319-8753, Vol.6, Issue 8, August 2017, pp. 17214- 17218.

**S.B.SWATHI****Conference:**

1. Presented a paper, "Survey: On Selection of Flat Routing Protocols Based on Wireless Network Conditions", in 12th International Conference on Recent trends in Engineering

Science and Management (ICRTESM-17) held during 19<sup>th</sup> November 2017 at OU Hyderabad.

### **R.GAUTAM**

#### **Journals:**

1. Published a paper, "Applying Clustering Strategies to Improve the Efficiency of Network in Wireless Sensor Networks" in International Journal of Scientific research in science and Technology (IJSRST), ISSN: 2395-6011, Volume 4 Issue 2, January 2018, pp. 1169-1173

### **P.SUMA**

#### **Journal:**

1. Published a paper, "Secure and Effective Random Paths Selection (SERPS) Algorithm for Security in MANETs", in International Journal of Engineering & Technology (IJET), Volume: 07, Number: 2.8, April 2018, pp. 134-138 .

### **T.MAHESH KUMAR**

#### **Conference:**

1. Presented a paper, "Survey on Cost Attentive of Test Suite Reduction for Software Testing", in 12th International Conference on Recent trends in Engineering Science and Management (ICRTESM-17) held during 19th November 2017 at OU, Hyderabad.

#### **Abstracts of Published Journals:**

1. Title: Survey on Packet Marking Algorithms for IP Traceback.

**ABSTRACT:** Distributed Denial of Service (DDoS) attack is an unavoidable attack. Among various attacks on the network, DDoS attacks are difficult to detect because of IP spoofing. The IP traceback is the only technique to identify DDoS attacks. The path affected by DDoS attack is identified by IP traceback approaches like Probabilistic Packet marking algorithm (PPM) and Deterministic Packet Marking algorithm (DPM). The PPM approach finds the complete attack path from victim to the source where as DPM finds only the source of the attacker. Using DPM algorithm finding the source of the attacker is difficult, if the router get compromised. Using PPM algorithm we construct the complete attack path, so the compromised router can be identified. In this paper, we review PPM and DPM techniques and compare the strengths and weaknesses of each proposal.

#### **KEYWORDS:**

Distributed Denial of Service; Deterministic Packet Marking; IP traceback; packet marking; Probabilistic Packet Marking

2.Title: Android based Student Reminder System.

**ABSTRACT:** Now a day's usage of android applications has become a part of our life. By using these applications our work becomes simple and easier in our day to day activities. This paper suggests an android application which is generally useful for the students and parents. It contains various features like notifying the student about the renewal date of library books, alerting students and their parents about the percentage of attendance and reminds them about number of classes they should present to maintain the specified attendance threshold. This application also alerts the students and parents about various events like examinations, workshops to be held, student activities to be conducted etc. This application is user friendly and can be installed in any android smart phone.

**KEYWORDS:**

Android; smart phone; reminder; Attendance Management; Alerts; library renewal

3.Title: A Novel encryption Algorithm to Enhance Database Security.

**ABSTRACT:** Database is a composed gathering of information, numerous client needs to store their own and classified information's in a database. Database security usually refers to the aggregate measures used to ensure and secure a database or database administration programming from illegitimate use and malicious threats and attacks. It is a wide term that incorporates a huge number of procedures, tools and techniques that guarantee security inside a database environment [9]. Cryptography is one commonly used technique to protect database from attacks and threats. In this paper we will discuss about a novel technique which uses reverse encryption and rotation encryption together to give advanced security to the database. Keywords: Encryption, REA, ROT13, database security.

4.Title: Discovering User-Item Subgroup and Predicting Domain-Specific Correlations in Recommendation Approaches by Using DsRec Algorithm .

**ABSTRACT:** with the wide kind of services and products to be had at the internet, it is hard for users to pick out the product or service that maximum meets their wishes. In order to reduce or maybe put off this issue, recommender systems have emerged. A recommender system is used in diverse fields to suggest items of interest to users. One of the main regions where this concept is currently used is e-commerce that interacts immediately with customers by suggesting products of interest with the intention of enhancing its income. Motivated via the remark, a novel Domainsensitive Recommendation (DsRec) set of rules is proposed, to make the rating prediction by using exploring the useritem subgroup evaluation concurrently, in which a consumer-item subgroup is deemed as a website together with a subset of items with comparable attributes and a subset of customers who have pastimes in these objects. Collaborative Filtering (CF) is an effective and widely

adopted recommendation approach. Different from content material-primarily based recommender structures which rely on the profiles of customers and gadgets for predictions, CF approaches make predictions by using most effective utilizing the user-item interaction records consisting of transaction history or object pride expressed in scores, etc

5.Title:Survey: On Selection of Flat Routing Protocols Based on Wireless Network Conditions.

**ABSTRACT:** Flat routing protocol is a network communication protocol implemented by routers in which all nodes are routers and are each other's peers. Flat routing protocol distributes routing information to routers that are connected to each other without any organization or segmentation structure between them. They enable the delivery of packets among routers through any available path. Flat routing protocols are primarily those that don't work under a predefined network layout. Flat routing protocol is implemented in networks where each router node routinely collects and distributes routing information with its neighboring routers. The entire participating node addressed by flat routing protocol performs an equal role in the overall routing mechanism. This paper presents the features and infrastructure required for various routing protocols. With the help of this paper, a particular flat routing protocol can be selected based on the infrastructure available. Keywords: Gradient, Reinforcement, Interest, Event, Negotiation

6.Title: Applying Clustering Strategies to Improve the Efficiency of Network in Wireless Sensor Networks.

**ABSTRACT:** Wireless Sensor Networks are comprised of thousands of sensor nodes which are disseminated in a specific region to screen natural conditions like temperature, sound, pressure and so on and agreeably pass their information to the base station. WSN is steadily creating innovation. There are substantial scale applications in WSN like ecological observing, front line mindfulness, temperature detecting and so on in this way, there is need of expanding network lifetime in WSN as changing sensors regularly isn't conceivable for all intents and purposes constantly. In the past methods, the clustering of nodes isn't balanced and this can make the network energy unbalanced. Based on their separation and location, making it basically not quite the same as the Proposed Location Based Clustering Algorithm (LBC) can perform superior to anything leaving LEACH and Rescue Phase to shape a cluster. In LBC algorithm the location of every single present hub in the network are computed as for X, Y-organizes. This can maintain a strategic distance from arbitrary choice of nodes in clusters. It enhances the adjusting of the network and energy of network can be spared. Proposed Center Point Detection Clustering Algorithm (CPDC) decides the focal point of the cluster and closest hub to that point with high energy chose as Cluster Head (CH). Keywords: Wireless Sensor Networks, Energy Efficiency, Clustering, Cluster Heads, Network Lifetime.



### 7. Title: Secure and Effective Random Paths Selection (SERPS) Algorithm for Security in MANETs

**ABSTRACT:** Mobile Ad-hoc Networks (MANETs) are wireless and nodes of it are mobile in nature. These networks can be adopted where equipment like wires cannot be established and the nodes are moving. Due to the mobile nature of nodes, a fixed topology cannot be achieved. This leads to a dynamic or ever changing network structure. The paths between the communicating nodes also change frequently. Overall monitoring system is absent in it i.e. supervising node is not present for establishing routes in the network. Each node itself acts as a router. Due to the lack of fundamental management system and ever moving nodes, security becomes a challenge and detection of attackers also becomes tough. Dynamic source Routing (DSR) is used in route discovery. In this routing strategy, paths are established only on demand of sender and receiver nodes. And to reduce the cost many algorithms were proposed, but the concept of security is deficit in them. In this paper, Secure and Effective Random Paths Selection (SERPS) algorithm is proposed with the concepts of minimum cost and node disjointness to achieve security. All the node disjoint paths between sender and receiver are found. Among them a minimum of 4 minimum cost paths are selected. Then data packets are sent through them by randomly selecting the paths. Care is to be taken such that no consecutive packets go through the same path. By this, attacker at any node gets only the random packets but not the complete data. In this way security can be achieved. The simulation for the proposed SERPS algorithm is done to show the routing process.

### 8. Title: Survey on Cost Attentive of Test Suite Reduction for Software Testing

**ABSTRACT:** Software testing is a combination of verification and validation. To produce a quality product to the real customers or to satisfy the specific customer companies have to concentrate on both process to be used and outcome of the process. a test case is a perception of a test engineer which are designed to exercise a specific test requirement. During Testing It is not possible to test all of the specified test requirements with a single test case. Combination of test cases belongs to one functionality is called as test suite so, if test suite size increases it leads to increase the number of test cases. Researchers have investigated two approaches for addressing the test-suite size problem that maintain the same coverage as the original test suite test-suite reduction and testsuite prioritization. Test suite prioritization algorithms identify an ordering of the test suite according to some criteria. Test suit reduction is the most imperative approach in which the numbers of the test cases in the test suite are minimized, at the same time covering all the requirements. The problem of test suite optimization has been also formulated as a combination of multiple often contrasting criteria. Many of the test suite reduction approach using the optimization algorithms have been concentrated as an active are of research. The efficient performance of the optimization based test suite reduction depends on the tester with the requirements like choosing some testing criteria to be satisfied, and using an optimization technique to select/order the test cases on the basis of the chosen criteria. Keywords: Test Case, Test Suite, Test suit reduction, optimization algorithms

**Events Conducted By Department:**

S. No.	Title of the Event	Type of the Event	Date of event
1.	Current Trends in IT & IT in Banking	Guest Lecture	August 16 <sup>th</sup> , 2017



Department of Information Technology has organized a Guest Lecture on “Current Trends in IT and IT in Banking” on 16.08.2017 as part of association activity. Mr. Santhosh Gajula, Product Manager, Kotak Mahindra Bank, Mumbai delivered the lecture and about 50 students attended the lecture.

S. No.	Title of the Event	Type of the Event	Date of event
1.	IOT and Information Security	Workshop	September 15 <sup>th</sup> & 16 <sup>th</sup> , 2017



A two day workshop on “Internet of Things and Information Security” was organized by the department of Information Technology in association with Tata Consultancy Services(TCS), Hyderabad on 15.09.2017 and 16.09.2017. The Resource Persons are Mr.Aravind Gunda, Mr.Sitaram Eranki & Ms. Moutan Sarkar from TCS Hyderabad. In these two days, they covered a lot of topics on IOT and Information Security like, Need for IoT Systems in Industry, IoT System Architecture, Need for Edge Computing, Cloud Computing, Sensor and Device Management, Networks and Information Security, Risks, Cyber Security and Emerging Cyber Threats, Security Tools and Resources. More than 200 students were registered for this workshop.

S. No.	Title of the Event	Type of the Event	Date of event
3.	Python programming	Workshop	October 12 <sup>th</sup> , 2017



As a part of Sumshodini '17 (version 2.0), an institute level student technical event, the department of Information Technology organized a workshop on “Python Programming” on 12.10.2017. Faiz Mohd. Arif Khan, Java, Android, J2EE Trainer and Developer at RCPL India Delivery Partner- HPE Education Services was the resource person. He explained the programming concepts needed for placements and projects. Nearly 120 students have registered and benefitted by this workshop.

S. No.	Title of the Event	Type of the Event	Date of event
4.	Google Crowd Source	Interactive session	March 23 <sup>rd</sup> , 2018



Department of IT, organized an interactive session by Md. Nawazuddin, Googler, Google on "GOOGLE CROWD SOURCE". This session was organized on 21.03.18 (AN) at New Seminar Hall. His talk made the students to know about the Crowd Source, a "Collaborative Contribution" app, which aims to tap the collective wisdom of users to improve its services.

S. No.	Title of the Event	Type of the Event	Date of event
4.	Software Testing Methodologies	Guest Lecture	April 4 <sup>th</sup> , 2018



Department of Information Technology has organized a Guest Lecture on “**Software Testing Methodologies**” on 4<sup>th</sup> April, 2018 as part of departmental activity during the academic year 2017-18. Mr. Sandeep Sreenadhula, Test Lead, Test Automation, Credit Safe Technologies, Hyderabad delivered the lecture. Department has made the arrangements in Block-V Multimedia Laboratory and about 70 students were attended the guest lecture.

S. No.	Title of the Event	Type of the Event	Date of event
4.	Big Data & Analytics	Guest Lecture	April 3 <sup>rd</sup> , 2018



K.Akash, Application Designer, DXC.Technology, Hyderabad, and a proud Alumni from Department of Information Technology, KITSW delivered as Guest Lecture on “Big Data & Analytics” on 03.04.2018.

S. No.	Title of the Event	Type of the Event	Date of event
4.	Google-Android Developer Fundamentals	FDP	May 1 <sup>st</sup> to 5 <sup>th</sup> , 2018



Dept of CSE and IT of KITS, Warangal in association with TASK have conducted a Five-day Faculty Development Program on “GOOGLE-ANDROID DEVELOPER FUNDAMENTALS” from 01.05.18 to 05.05.18, which is intend at enriching the faculty in-and-around KITSW with profound knowledge in Mobile App Development. Android developers Ms.Simmi Anand and, Sherlyn Kaur, Google ADF were the resource persons of this FDP.



S. No.	Title of the Event	Type of the Event	Date of event
4.	Emerging Trends in Wireless Networks	FDP	May 21 <sup>st</sup> to 25 <sup>th</sup> , 2018



Department of Information Technology conducted a one week Seminar on “EMERGING TRENDS IN WIRELESS NETWORKS” which is sponsored by Department of Science and Technology (DST), SCIENCE AND ENGINEERING RESEARCH BOARD( SERB) and IETE Warangal Center, from 21.05.18 to 25.08.18. 40 participants from various institutes were trained on tools like NS3, Qualnet, Socket Programming etc.

## Semester Wise Toppers list

S.No	Semester	Roll No	Name of the Student
1	VIII	B14IT049	G.Sumana
2	VII	B14IT049	G.Sumana
3	VI	B14IT029	M.Sai Geetha Reddy
4	V	B15IT027	K.Mahendra Babu
5	IV	B15IT002	K.Priyanka
6	III	B16IT035	K.Sushma Sheetal
7	II	B16IT030	S.Sai Priya
8	I	B17IT010	Ch.Divya Reddy



G.Sumana,B14IT049 Receiving Certificate and Memento form HOD for securing top marks in VII and VIII Semesters.



M.Sai Geetha Reddy, B14IT029 Receiving Certificate and Memento form HOD for securing top marks in VI Semester.



K.Priyanka, B15IT002 Receiving Certificate and Memento form HOD for securing top marks in IV Semester.



K.Mahendra Babu,B15IT027 Receiving Certificate and Memento form HOD for securing top marks in V Semester.



K.Shusma Sheetal,B16IT035 Receiving Certificate and Memento form HOD for securing top marks in III Semester.



S.Sai Priya,B16IT030 Receiving Certificate and Memento form HOD for securing top marks in II Semester.



Ch.Divya Reddy,B17IT010 Receiving Certificate and Memento form HOD for securing top marks in I Semester.

**Students Placements:**

S. No.	Roll Number	Full Name	No. of companies placed	List of companies placed
1	B14IT001	Ch.Anvith Reddy	2	M/S. Acheron Software Consultancy
				M/S. Mu Sigma
2	B14IT003	Mirza Yaser Baig	2	M/S. ZenQ
				M/S. Infosys
3	B14IT005	A.Anudeep Reddy	2	M/S. Value Momentum
				M/S. HCL
4	B14IT006	K.Akhila	2	M/S. FACE Academy
				M/S. Avance Consulting
5	B14IT009	K.Shiva Datta Sai	1	M/S. HCL
6	B14IT012	M.Sai Krishna	5	M/S. ZenQ
				M/S. Infosys
				M/S. Value Momentum
				M/S. GGK Tech
				M/S. MAQ Software

S. No.	Roll Number	Full Name	No. of companies placed	List of companies placed
7	B14IT013	Shemail Shaik	1	M/S. QJ Spiders
8	B14IT019	D.samera	1	M/S. Ad3i Software Solutions Pvt. Ltd.
9	B14IT023	G.Nikhila	1	M/S. Infosys
10	B14IT028	B.Anusha	1	M/S. Infosys
11	B14IT029	M.Sai Geetha Reddy	2	M/S. Aveva
				M/S. Infosys
12	B14IT031	V.Shreyanth	1	M/S. Photon Interactive
13 14	B14IT036	Y.Shushma	1	M/S. Aliens Infrastructure Pvt. Ltd.
15	B14IT039	K.Abhinay Kumar	2	M/S. Metmox Inc
				M/S. QJSpiders
16	B14IT041	L.Madhulika Reddy	2	M/S. Metmox Inc
				M/S. QJSpiders
17	B14IT042	J.Manaswi	1	M/S. QJSpiders

S. No.	Roll Number	Full Name	No. of companies placed	List of companies placed
18	B14IT048	P.Ruthvik Reddy	2	M/S. QJSpiders
				M/S. HCL
19	B14IT049	G.Sumana	2	M/S. App Associates
				M/S. ZenQ
20	B14IT051	G.Vamshidhar	1	M/S. Hexaware
21	B14IT054	D.Sindhu	1	M/S. ZenQ
22	B14IT059	Ch.Srilekha	1	M/S. Mu Sigma



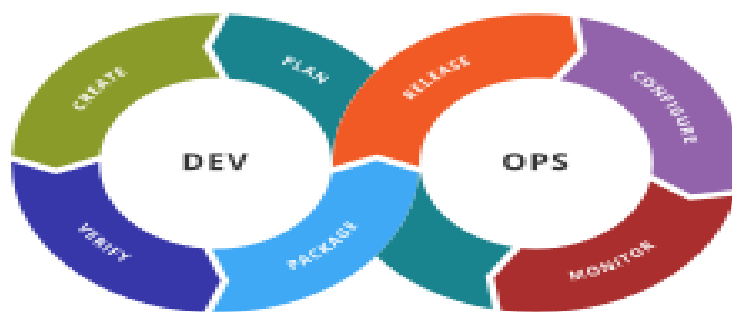
Faculty Contribution:

## Who are you?

I have never seen you, touched you, smelled you,  
but you are so valuable that I keep on counting you always.  
You are always involved in sweet and sad memories of my life.  
You keep on changing with every blink of eye.  
Life starts with you as zero.  
Days, months, years are added as per your choice.  
Suddenly you make it zero when you think it is enough.  
People say you're the most valuable thing in this world  
and available in equal amount to everyone whether rich or poor  
young or old..  
No one can steal you from other.  
You give different feelings when you are associated with past, present and future.  
For me, you always look beautiful when I wake up in the morning.  
I love you always, you are my dear TIME.

By  
Dr.P.Kamakshi  
Professor & Head ,Dept of I.T.

## DevOps



**DevOps** (a clipped compound of "development" and "operations") is a software engineering culture and practice that aims at unifying software development (Dev) and software operation (Ops). The main characteristic of the DevOps movement is to strongly advocate automation and monitoring at all steps of software construction, from integration, testing, releasing to deployment and infrastructure management. DevOps aims at shorter development cycles, increased deployment frequency, and more dependable releases, in close alignment with business objectives.

### *Definitions and history:*



Venn diagram showing DevOps as the intersection of development (software engineering), operations and quality assurance (QA)

At the 2008 Agile Toronto conference, Andrew Shafer and Patrick Debois introduced the term in their talk on "Agile Infrastructure". From 2009, the DevOps term has been steadily promoted and brought into more mainstream usage through a series of "devopsdays", which started in Belgium and has now spread to other countries.

The term DevOps has been used in multiple different contexts.

A definition proposed by Bass, Weber, and Zhu, is:

DevOps is a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high quality.

In recent years, more tangential DevOps initiatives have also evolved, such as OpsDev, WinOps, DevSecOps, and BizDevOps.

### ***DevOps tool chain:***

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As DevOps is intended to be a cross-functional mode of working, rather than a single DevOps tool there are sets (or "toolchains") of multiple tools. Such DevOps tools are expected to fit into one or more of these categories, reflective of key aspects of the development and delivery process.

1. Code – code development and review, source code management tools, code merging
2. Build – continuous integration tools, build status
3. Test – continuous testing tools that provide feedback on business risks
4. Package – artifact repository, application pre-deployment staging
5. Release – change management, release approvals, release automation
6. Configure – infrastructure configuration and management, Infrastructure as Code tools
7. Monitor – applications performance monitoring, end-user experience

Note that there exist different interpretations of the DevOps toolchain (e.g. Plan, Create, Verify, Package, Release, Configure, and Monitor).

Some categories are more essential in a DevOps toolchain than others; especially continuous integration (e.g. Jenkins) and infrastructure as code (e.g. Puppet).

### ***Relationship to other approaches:***

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The need for DevOps arose from the increasing success of agile software development, as that led to organizations wanting to release their software faster and more frequently. As they sought to overcome the strain this put on their release management processes, they had to adopt patterns such as application release automation, continuous integration tools, and continuous delivery.

#### **Continuous delivery:**

Continuous delivery and DevOps have common goals and are often used in conjunction, but there are subtle differences.

While continuous delivery is focused on automating the processes in software delivery, DevOps also focuses on the organization change to support great collaboration between the many functions involved.

DevOps and continuous delivery share a common background in agile methods and lean thinking: small and frequent changes with focused value to the end customer. They are well communicated and collaborated internally, thus helping achieve faster time to market, with reduced risks.

**DataOps:**

The application of continuous delivery and DevOps to data analytics has been termed DataOps. DataOps seeks to integrate data engineering, data integration, data quality, data security, and data privacy with operations. It applies principles from DevOps, Agile Development and the statistical process control, used in lean manufacturing, to improve the cycle time of extracting value from data analytics.

**SciOps (Scientific DevOps):**

Scientific DevOps refers to DevOps practices applied in the context of scientific computing. While the tools and methodologies are the same, the goals are different: DevOps delivers a software product, while SciOps delivers scientific insights. An alternative interpretation of the term is as a specialization of DevOps.

**ResOps (Research DevOps):**

Research DevOps groups together all the tools and techniques used to deliver and support research operations in cloud environments (i.e., data transfer or data storage). In addition, ResOps also focuses on the optimisation of research workloads for clouds, defining two main approaches: legacy, where on-prem infrastructure is replicated in the cloud environment, and cloud-first, where cloud computing paradigms are fully adopted when designing the workloads. Both approaches have their own advantages and disadvantages, and impact the efficiency of the designed solution.

**Site reliability engineering:**

In 2003, Google developed *site reliability engineering*, a new approach for releasing new features continuously into large-scale high-availability systems while maintaining high-quality end user experience. While SRE predates the development of DevOps, they are generally viewed as independent trends. Some aspects of DevOps have taken a similar approach.

**Systems administration:**

DevOps is often viewed as an approach to applying systems administration work to cloud technology.

**Goals:**

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The goals of DevOps span the entire delivery pipeline. They include:

- Improved deployment frequency;
- Faster time to market;
- Lower failure rate of new releases;
- Shortened lead time between fixes;
- Faster mean time to recovery (in the event of a new release crashing or otherwise disabling the current system).

Simple processes become increasingly programmable and dynamic, using a DevOps approach. DevOps aims to maximize the predictability, efficiency, security, and maintainability of operational processes. Very often, automation supports this objective.

DevOps integration targets product delivery, continuous testing, quality testing, feature development, and maintenance releases in order to improve reliability and security and provide faster development and deployment cycles. Many of the ideas (and people) involved in DevOps came from the enterprise systems management and agile software development movements.

### **Views on the benefits claimed for DevOps:**

Companies that practice DevOps have reported significant benefits, including: significantly shorter time to market, improved customer satisfaction, better product quality, more reliable releases, improved productivity and efficiency, and the increased ability to build the right product by fast experimentation.

However, a study released in January 2017 by F5 of almost 2,200 IT executives and industry professionals found that only one in five surveyed think DevOps had a strategic impact on their organization despite rise in usage. The same study found that only 17% identified DevOps as key, well below software as a service (42%), big data (41%) and public cloud infrastructure as a service (39%).

### ***Cultural change:***

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DevOps is more than just a tool or a process change; it inherently requires an organizational culture shift. This cultural change is especially difficult, because of the conflicting nature of departmental roles:

- Operations – seeks organizational stability
- Developers – seek change
- Testers – seek risk reduction

Getting these groups to work cohesively is a critical challenge in enterprise DevOps adoption.

### **DevOps as a job title:**

While DevOps describes an approach to work rather than a distinct role (like system administrator), job advertisements are increasingly using terms like "*DevOps Engineer*".

While DevOps reflects complex topics, the DevOps community uses analogies to communicate important concepts, much like "The Cathedral and the Bazaar" from the open source community.

- Cattle not Pets: the paradigm of disposable server infrastructure.
- 10 deployments per day: the story of Flickr adopting DevOps.

### ***Deployment:***

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Companies with very frequent releases may require a DevOps awareness or orientation program. For example, the company that operates the image hosting website Flickr developed a DevOps approach, to support a business requirement of ten deployments per day; this daily deployment cycle would be much higher at organizations producing multi-focus or multi-function applications. This is referred to as continuous deployment or continuous delivery and has been associated with the lean startup methodology. Working groups, professional associations and blogs have formed on the topic since 2009.

### **Architecturally significant requirements:**

To practice DevOps effectively, software applications have to meet a set of architecturally significant requirements (ASRs), such as: deployability, modifiability, testability, and monitorability. These ASRs require a high priority and cannot be traded off lightly.

Although in principle it is possible to practice DevOps with any architectural style, the microservices architectural style is becoming the standard for building continuously deployed systems.<sup>[23]</sup> Because the size of each service is small, it allows the architecture of an individual service to emerge through continuous refactoring, hence reducing the need for a big upfront design and allows for releasing the software early and continuously.

### **Scope of adoption:**

Some articles in the DevOps literature assume, or recommend, significant participation in DevOps initiatives from outside an organization's IT department, e.g.: "DevOps is just the agile principle, taken to the full enterprise."

A survey published in January 2016 by the SaaS cloud-computing company RightScale, DevOps adoption increased from 66 percent in 2015 to 74 percent in 2016. And among larger enterprise organizations, DevOps adoption is even higher – 81 percent.

Adoption of DevOps is being driven by many factors – including:

1. Use of agile and other development processes and methods;
2. Demand for an increased rate of production releases – from application and business unit stakeholders;
3. Wide availability of virtualized and cloud infrastructure – from internal and external providers;
4. Increased usage of data center automation and configuration management tools;
5. Increased focus on test automation and continuous integration methods;
6. A critical mass of publicly-available best practices.

Final Year passed out batch (2017-18) of B.Tech students Group Photo with Faculty



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