Certificate Course in Computer Science and Engineering with Specialization "Cloud Computing And Security" Held On
8 January to 12 January 2018

Department of computer Science & Engineering,
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Coordinator

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SUMMARY REPORT OF CLOUD COMPUTING AND SECURITY

About Course

The certificate course on cloud computing and security is concluded its work successfully by department of computer science and engineering (CSE) in KG ready college of Engineering and technology (KGRCET), Hyderabad, Telangana. This course is a forum to bring together students to discuss innovative ideas and diverse topics of this course on next generation of information technologies. Department has taken a new step for students to improve the quality of study through this course and become most wide scale , extensive, spectacular event in computer science engineering. The five days course was held in two locations of the department (a) Department E-learning room for theory class and (b) Department laboratory for practical class.

Cloud computing security or, more simply, cloud security refers to a broad set of policies, technologies, applications, and controls utilized to protect virtualized IP, data, applications, services, and the associated infrastructure of cloud computing. It is a sub-domain of computer security, network security, and, more broadly, information security.

This course is based on both theory and practical oriented course which is helped to student for making their carrier through cloud computing environment in industry. The students of 4th year 2nd semester have been benefited in many ways from this course. More than 80 students have joined in this course as their own interest and completed this course. The trainer taught to students very nice with real time example and sharing his knowledge to develop technical skill in industry.

Scope of the Course

The role of cloud computing and security is to be emphasized in computer science and engineering, to enhance and motivate the new technology for wide range of applications. It has different kind of applications as per organization and individual needed. Global Cloud Security Market to reach USD 12.64 billion by 2024, driven by the increasing use of cloud services for data storage and curbing advances of cyber-attacks. It can be a product or solution focused on the security of compliance, governance and data protection. Cloud-based services for data storage have increased over the past few years. Furthermore, companies are transferring their data to these servers owing to flexibility and cost saving. It is also used in non-traditional sectors such as online gaming and social media due to high storage space. Cloud identity & access management were widely used followed by email & web security owing to increasing demand for high-level security of data and identity security in organizations. Public services held 35.6% of the market share in 2016 owing to its strong security track record and transparency of leading cloud providers. However, hybrid deployment is estimated to be fastest growing market owing to cost saving model, improved security, and enhanced organizational performance.

The course contains both theory and practical for applications as well as design methods based on cloud computing and security related topics. The list of topics spans all the areas of the cloud computing and security and engineering domains. It covered significant recent developments in the field, both of a foundational and applicable character of this course. An important feature

of this course is very useful in service carrier. The selected topics of this course helped to make project work. This permits also a rapid and broad dissemination of project and research work.

Objectives of the course

The objective of the course is to bring together experts from academic institute and training institute for sharing of knowledge, expertise and experience in emerging trends related to the computer science and engineering topics.

a. Protect Postal Service data from unauthorized access, disclosure, modification, and monitoring. This includes supporting identity management such that the Postal Service has the capability to enforce identity and access control policies on authorized users accessing cloud services. This also includes the ability of the Postal Service to allow access to its data selectively available to other users.

b. Protect information resources from supply chain threats. This includes verifying and maintaining the trustworthiness and reliability of the CP, as well as the security assurances associated with the hardware and software used.

c. Prevent unauthorized access to cloud computing infrastructure resources. This includes implementing security domains that have a logical separation between computing resources (e.g., logical separation of Postal Service workloads running on the same physical server by virtual machine (VM) monitors [hypervisors] in a multitenant environment) and using default to no-access configurations.

d. Design Web applications deployed in a cloud for an Internet threat model [such as the National Institute of Standards and Technology (NIST)] and embed security into the software development process.

The course covered all topics of cloud computing and security system as well as engineering system related to computer science engineering. Broad and individual topics are mentioned in syllabus but not limited. Specific tracks of the course had been taken for different session of the day.

As a result many keynote, tutorial and technical sessions have been prepared in accordance with course scope to discuss the challenges, opportunities and problems of application of computer science engineering in various fields.

OUTPUT:

This course was not only shared the knowledge among students but also tied up with expert for upcoming course. The main outputs are mentioned below:

❖ The expert shared his knowledge among students.
❖ Students learned from this course and tried to use the techniques for their project as well as research work.
❖ Students interact with expert to gain their additional knowledge for future research work.

- ❖ Students found new ideas, concept, knowledge on technology, different application of methodologies from different session of course.
- ❖ Department tried to do their collaborative research work on this course with university as well as industries.
- ❖ It was created different domains of research field from this course for possible topic of computer science engineering.
- ❖ It helped to make industrial project.
- ❖ It helped to student for campus recruitment.
- ❖ It also helped to design cloud based infrastructure for organization.

By understanding one can leverage from its cloud platform or service provider, one can build security into its application without reinventing the capability within its application boundary thus avoiding costly "bolt-on" safeguards. A good practice is to create security principles and architectural patterns that can be leveraged in the design phase. Architectural patterns can help articulate where controls are enforced (Cloud versus third party versus enterprise) during the design phase so appropriate security controls are baked into the application design. Keep in mind the relevant threats and the principle of "risk appropriate" when creating cloud security patterns. Ultimately a cloud security architecture should support the developer's needs to protect the confidentiality, integrity and availability of data processed and stored in the cloud.

Summary of Participants

a) Number of students attended this course: 86
b) Number of students attended written exam: 86
c) Number of students qualified the exam: 30

Day-1
(08-01-18)

Time: 09:00 AM to 11:00 AM

Inauguration of certificate course

The first day of certificate course started with welcoming and opening ceremony at the KGRCET conference Hall. The following dignitaries were representatives of the certificate course who were addressed and pointed out the importance on course with short welcoming speeches.

Welcome addressed by Mr. M. Saidi Reddy, HOD, CSE, KGRCET
About the certificate course by Principal Dr. R. S. Jahagirdar, KGRCET
Importance of this course by expert Dr. Sudhir Ranjan Pattanaik, KL university, AP.
Interaction with 4th year 2nd semester students

Time: 11:10 AM to 04:15 PM

Introduction to Cloud computing

Cloud computing has more to offer businesses and individuals than ever before. Many are moving to the cloud to take advantage of the on-demand nature of documents, applications and services. An area of cloud computing that is starting to garner more attention is cloud security, as well as Security-as-a-Service (SECaaS). These security areas are increasing in attention in response to businesses move to the cloud – cyber thieves follow data and confidential information. Similar to on-premise computer and server security, cloud security adoption has lagged behind cloud service adoption.

However, the SECaaS area is beginning to growing rapidly, and will continue to grow. Many individuals move to the cloud without considering what possible security pitfalls may be present, and who could be reading their sensitive information. Services like email (Gmail, Hotmail, etc.) and social networks have always been housed in the cloud, and have long been a personal security threat.

Conversely, many organizations are paralyzed with regard to cloud services, not realizing that there are security solutions that can protect confidential information as it passes through the cloud stack (Penn). These organizations have robust security options, as many familiar names in IT security have products for cloud security. SECaaS products include Identity and Access Management, Data Loss Prevention, Web Security, and Intrusion Management, and more (Orans, MacDonald). The cloud is going to continue to grow for the foreseeable future. Mobile access to company assets is a trend that will continue to grow at a fast rate. Governments are moving their data to the cloud, and purchasing cloud security solutions to protect themselves and their agents all over the world; about 30% of cloud security solutions are purchased by government entities at this point.

Cloud computing is a hot trend. Going to the cloud is not only fashionable, but it saves time, money, and resources. The move to the cloud shows no signs of slowing down, and cloud security products will need to continue to keep up with demand. SECaaS has the potential for exponential growth and expansion in the ever-evolving cloud computing market.

Day-2
(09-01-18)

Infrastructure as a Service, Platform as a Service, Software as a Service

Infrastructure-as-a-Service (IaaS) as a concept is easier to grasp because of some similarity it shares with the traditional infrastructure that was used and is still used in many organizations today. With the traditional infrastructure an organization needed to purchase servers, all networking components and storage devices. A lot of capital is required to start up a business and more funds may be required for a company that wants to change its business model to adapt to changes in the market

The ability for a business to acquire IaaS began to make it easier for Startups and other businesses, especially those who could not afford infrastructure they needed, to meet their technology requirements. Advancements in computer technology in areas such as networking, the Internet, virtualization technology, clustering and load balancing capabilities have enabled IaaS providers to offer scalable, shared and manageable environments (Dawoud). Other companies that provide cloud computing services specifically IaaS are Amazon, AT&T, HP, Verizon, CA Technologies, Cloud Scaling, DATA PIP and Eucalyptus Systems among others.

However, even with the advantages that are mentioned above, IaaS has significant security challenges. The security challenges of providing this service become increasingly complex as the number of users increases. Also, customers of IaaS must share resources, which has security implications as well. The IaaS delivery model consists of components such as service level agreement, utility computing, cloud software, platform virtualization, network connectivity, and computer hardware (Dawoud). All of these components face different security and privacy issues. The challenges of cloud computing from a user's (i.e. company

that pays for the service) point of view are: knowing exactly where the data is located, whether others are accessing the data, and whether the data is being compromised.

Products and Services
Products and services that are offered by IaaS providers are:
Servers: Most business may require similar servers but depending on the nature and size of a business the number and type of servers required may differ. Examples of servers that are commonly used are Database servers, Application servers, and Mail servers, among many others. Security products used in traditional way of securing servers and storage are still relevant, e.g. use of firewall and Intrusion Detection Systems. An IaaS provider can provide a firewall for a fee to filter mail received by a startup business.
Storage Devices: High Capacity hard drives are also made available for lease to companies that need these services. The IaaS providers are able to do this as they have data centers with hard drive s that are able to store large-scale data, and with use of virtualization this capability is significantly improved.

Future of IaaS
Currently there are security concerns that are holding businesses back from acquiring services such as IaaS. However, with more studies concerning these addressing these issues, we can expect that more companies/businesses will feel confident migrating to the cloud. Also by applying Moore's Law there can be an expected increase in processing power and memory (Ushman). Based on Moore's law we can then predict that virtualization capacity will also increase. With increased virtualized capacity, we can expect increased efficiency and scalability. This may cause more companies to migrate to the cloud in the future.

Platform as a Service
In the cloud stack, Platform-as-a-Service (PaaS) sits in the middle, between Infrastructure-as-a-Service and Software-as-a-Service. Customers who make use of PaaS do not want to deal with the hassle of purchasing a physical computer, installing the operating system, and all other steps that go into integrating a computer into the company's workflow (Keene). PaaS is often used in instances of application development, which allows for a developer start programming without having to install an Operating System, a Database server, or a Web

server. This frees organizations from significant overhead in terms of money and resources in supporting their hardware.

PaaS offers the ability to make the computer into a service, freeing the user from maintenance on the machine – and truly – even caring about the operating system that they are using. PaaS deployments can be public – like Google App Engine and Windows Azure – allowing anyone to sign up and use the platform. They can also be private, set up and monitored by an organization, used only by internal members of that organization. Private clouds offer two distinct advantages: 1) sensitive information need not be transmitted over the public internet, 2) if the internet connection in the building is down, local network resources that are still available can serve data from the private cloud (Bhadauria).

Day-3
(10-01-18)

Products and Services

High-Assurance Hypervisor is an idea that is on the rise, and very close to corporate acceptance. This would greatly improve the confidence in public PaaS in the commercial world. If a Hypervisor is High- Assurance, users can be confident that their data and deployments are safe from outside tampering.

Many companies are beginning to support this capability (MacDonald). Along with the rise of High-Assurance Hypervisors, the private cloud is an idea that is also gaining traction. This is due to the natural progression from server virtualization to server virtualization in the cloud. Many companies have found the virtualization reduces capital costs, and will soon find that a private cloud can speed the delivery of services (Penn). Google App Engine, along with other offerings such as Engine Yard and Microsoft Azure allow for the complete development, deployment, and hosting of mission critical web applications. Customers only have to pay for the bandwidth they use, with the provider scaling network resources to fit the demand for the application.
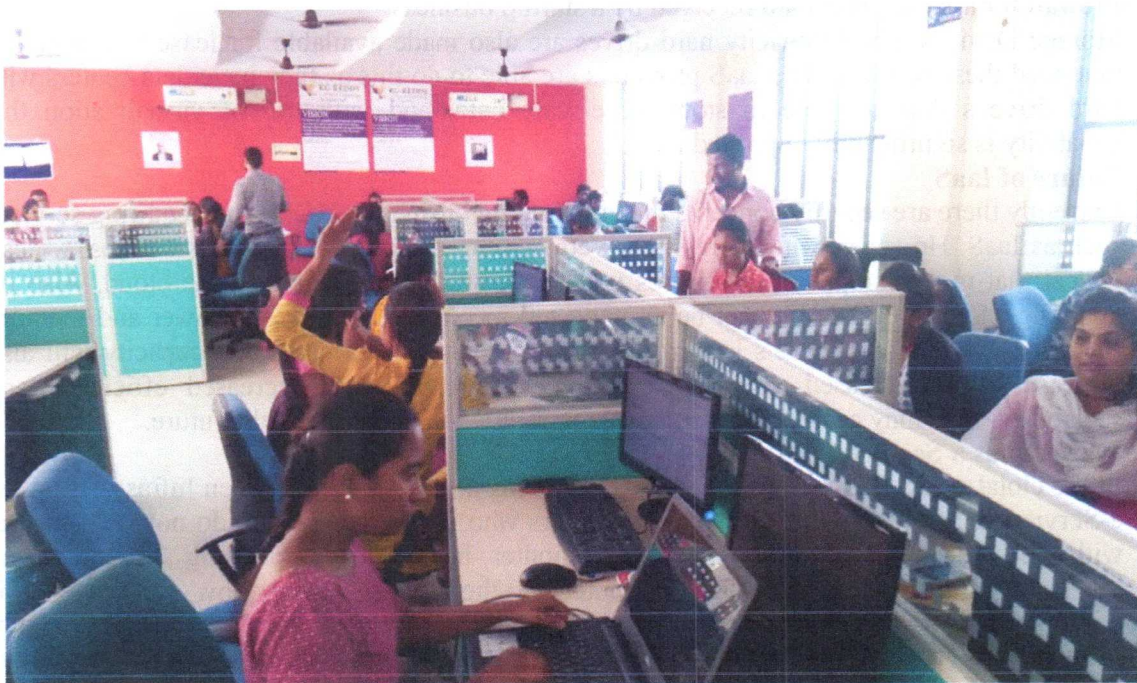
Future of PaaS

We believe that PaaS will continue to grow along with demand for SaaS. As consumers care less about what platform they need to run their software (as a service), they will care less about what, if any, platform they have. PaaS by way of Google's Chrome OS will continue to make itself relevant through its use in schools, due to low cost hardware (Lardinois). Having PaaS tool as a startup can drastically lower barriers of entry. Companies will take advantage of the ability to run their whole operation without buying a single server.

Software as a Service

In the Cloud Computing Stack, Software-as-a-Service (SaaS) sits on top of Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS). SaaS is simply software that is delivered from a server in a remote location to your desktop, and is used primarily online. Typically, it is accessed using a thin client via a web browser, although some SaaS software uses its own interface, designed to provide special characteristics for its application or its users. Initially, SaaS software existed only in real time –within an online connection. But, as SaaS evolved, applications that live on an appliance (a server managed by the SaaS vendor) on the user organization's premises became prevalent.

Products and Services

SaaS applications are available more or less for all business segments. As part of their SaaS product line, Google provides Google Apps for Business, which includes solutions like business email, calendar, documents and more.

SaaS startup desk.com (previously known as Assistly) helps companies collect and organize all of their customer conversations into a prioritized actionable list and equips support staff with the tools to respond to customers. The application allows businesses to filter conversations, access customer histories, automate processes and even tap into social media conversations on Facebook, Twitter and other sites (Rao). Demandforce's SaaS application automates Internet marketing and communications so customers can focus on running their day-to-day operations (Rao). Cloud financial management company Intacct sells cloud-based software for financial functions — including applications for accounting, contract management, revenue management, inventory management, purchasing, vendor management, financial consolidation and reporting (Lomas). Education technology company EverFi has created a SaaS application for schools to help educate young adults on financial literacy, student loan default prevention, filing taxes, credit card debt and other critical life skills. The application's curriculum incorporates virtual worlds, social media and videos to help teach children these life skills (Rao).

Future of SaaS

Investment in cloud computing is increasing more rapidly than investment in IT in general. One of the most promising trends in SaaS-applications is the mutual integration of various SaaS-services, including those developed by different vendors. As software offered by different vendors is developed to remove compatibility issues, dependency on SaaS applications will increase. We believe the future of SaaS is the elimination of servers being hosted at user location, with all applications being hosted on cloud. The future is looking bright for SaaS as clients move beyond early experimental implementations. Moreover, SaaS providers are coming up with solutions to problems like data security, application uptime and more. These problems have played a major role in preventing users from adopting SaaS services and applications.

Day-4
(11-01-18)

Security as a Service

After understanding the basics of the cloud stack, the next challenge is to protect these services from security threats. Securing conventional assets for infrastructure, platform, and software can be done by, but is not limited to, implementing physical access limitations. But for the cloud, where physical assets are seemingly intangible, various ways of providing security solutions are inevitably needed. In general, Security-as-a-Service (SECaaS) is outsourcing security management to a third party. Before the cloud era, a conventional company would host their own infrastructure at a physical location. That company would then allocate further expenses to secure their IT assets. These security expenses could vary from implementing network security appliances (e.g. IDS/IPS appliance, Firewall appliance) to hiring experts who evaluate security operations and procedures. When a company moves their IT services from their own internal network to the cloud (to a cloud provider, such as AmazonWS), the company can cut down the physical maintenance and data security expenses to the cloud provider.

This allows the company to focus on their business, concentrating on what they do best and leaving IT security to cloud experts. For each cloud service that has been discussed, the cloud service provider provides some security measures. For example, that IaaS service provider only allows connectivity from specific IP addresses in their Access Control List (ACL). PaaS

service providers only allow certain usernames and passwords. SaaS service providers also limit their service to those who already have the security token before utilizing the software. SECaaS does not refer only to securing cloud infrastructure. SECaaS also has the ability to secure the entire enterprise network that may be hosted physically on-premise. The security tools and main appliances are hosted by a SECaaS company in the cloud. For users who want this level of service, the SECaaS company can put a small appliance in the user's or company's network so that their network can be reached by the SECaaS provider. Usually, an enterprise already maintains network securitypolicies that only permit specific protocols and port numbers to enter the network. With this SECaaS appliance, a company can allow the incoming and outgoing traffic to the SECaaS provider confidently. But, the question still lingers: should the enterprise trust a third party to secure their digital and data assets? Before we can come to a conclusion, we should delve into the types of services as well as the providers of SECaaS.

Categories and Key Players

The Cloud Security Alliance (CSA) identified the categories of services that define the major security concerns for cloud computing. These categories originate from research, studies, and surveys collected from experienced customers of cloud services (SECaaS Working Group). The categories are:

Identity and Access Management (IAM) - provides protective and preventative controls for assured

identity and access management. Key players include SailPoint, Aveksa, Oracle, Courion, and CA Technologies (Perkins, Carpenter 3).

Data Loss Prevention (DLP) - provides preventative controls by monitoring, protecting and verifying the security of data at rest and in motion. Key providers include Symantec, McAfee, Sophos, Trend Micro, and Kaspersky Lab (Firstbrook, MacDonald, and Girard).

Web Security - provides real-time protective, detective, and reactive control by protecting software and appliance installations. This may occur on-premise or via cloud by proxying or redirecting web traffic to the cloud provider. This may include the ability to perform URL filtering and Malware detection. Key players include Cisco, BlueCoat Systems, Websense, Zscaler, and McAfee (Orans, and Firstbrook 2).

Email Security - provides protective and reactive control over inbound and outbound email from threats such as phishing, malicious attachments, and spam. Key players include Cisco, Symantec, Proofpoint, Microsoft, Google, and McAfee.

Security Assessment - provides detective control by auditing cloud services or assessing systems located on company premises based on industry standards.

Intrusion Management - provides detective, protective, reactive control by using predefined signatures to prevent unusual events. Key players include McAfee, Sourcefire, and HP (Young, and Pescatore 2).

Security Information & Event Management (SIEM) - provides detective control by performing correlation analysis between logs and event information and then analyzes the system behavior to enable real-time alerting and reporting. The key SIEM players are HP ArcSight, IBM Q1 Labs, McAfee

Nitro Security, NetIQ (Novell), and LogRyhtm (Nicolett, and Kavanagh 2).

Encryption - provides protective control by scrambling data (i.e. plain text) using certain cryptographic

algorithms to produce a ciphertext, which is only understandable by the intended party.

Business Continuity and Disaster Recovery - provides reactive, protective, and detective control by measuring the design and implementation of a certain system so that operational resiliency still exists when a service disruption occurs.

Network Security - provides detective, protective, and reactive control by allocating access,

distributing, monitoring, and protecting the network resources that provide a total service. Certain services, protocols, or ports can be explicitly allowed or denied.

Deterrent Factors

Enterprises might be reluctant to use SECaaS to secure their network. SECaaS providers are not cheap, and allowing a third party to access their network or to store an appliance within their network is additionally concerning. This is similar to allowing a stranger to enter your house and inspect it for security against thieves. Moreover, many companies and enterprises have proprietary policies, software, and operations that they don't want to reveal to anyone, even their security provider. There will always be a trade-off between security, speed, and secrecy.

Day-5
(12-01-18)

Cloud Stack Security Concerns
IaaS Security

Storage hardware or servers can be physically accessed and compromised (Dawoud). This can lead to denial of service attack and, depending on the nature of the attack, this could lead to loss of important data availability. Confidentiality could be an issue if the attacker is able to view data at a datacenter—a problem that is handled by use of encryption and access controls, but attackers can always find their way around these barriers.

Cloud software can have bugs and vulnerabilities that can be exploited. Virtual machines are mobile and the hypervisor stores the virtual machines as files, making the virtual machines vulnerable to copying to another device. The ability of an attacker to copy a virtual machine provides the attacker the advantage of trying to break into the system without detection since these attacks are being performed on a copy of the virtual machine (Dawoud).

PaaS Security

Some of the threats that PaaS administrators face include the fact that since PaaS instances operate as virtual machines, it can be possible for users to "break out" of their virtual machine. By doing so they may be able to bring down the hypervisor, which may be running many other customers' PaaS instances, effectively causing a denial of service (Schultz).

Like any other cloud service, the user is removed from the machine they are working with, and the upkeep and maintenance is performed by others. A hypervisor administrator without scruples would have the ability to look at private data, possibly stealing intellectual property. Care must be taken in what data to store in such situations, as well as how to store the data.

A concern that is ever present when dealing with public cloud services is the transmission of sensitive data over the public Internet, and especially through the hardware of a hypervisor that has other tenants. Another virtual machine may intercept traffic coming over the shared network connection,exposing sensitive information to unintended parties (Dawoud).

SaaS Security

The biggest security concern in the SaaS environment is immature identity management. Google has a "Secure Data Connector" that forms an encrypted connection between a customer's data and Google's business applications. This allows the customer to control which employees may access Google Apps resources. But users who use multiple SaaS applications will end up using different security and identity systems. At times it is required by a client that sensitive data should remain within certain geographical locations. But, with SaaS, users cannot be sure about the location of data storage.

Moreover, currently there are no robust standards to evaluate SaaS security or Cloud Security in general. Some service providers claim to be SAS 70 and ISO 27001 compliant, but these standards are relevant to information and systems security. Moving forward, policy makers should come up with specific standards so that users can evaluate the SaaS application from security perspective before using it (Brodkin).

SECaaS Security

Enterprise users should not simply allow a SECaaS provider to put equipment on their premises without understanding what information may be passed through said hardware; security is still the enterprise users' responsibility, even if it is delivered by a SECaaS provider. The company can assume that all traffic passing through a SECaaS appliance will travel securely to the provider. However, sensitive data should be filtered by an IDS or IPS before travel to the cloud. A stateful packet inspector can also beused to monitor data passing through the appliance.

Security in IaaS, Paas, and SaaS is mainly concerned with limiting connectivity to and from certain networks. In SECaaS, permissions can be implemented to control access to specific resources.

SECaaS assists in bridging the gap between the security that Cloud Service Providers (CSPs) offer and the security that should be in effect on company premises. SECaaS will not maintain the security layersfor each cloud service. It is the responsibility of the CSP to provide security solutions for IaaS, PaaS, and SaaS. CSPs typically only provide limited security features like username and password, Access Control List, or possibly a session token ID. Those security features can only guarantee which usernames access the cloud. SECaaS offers the capability to manage how enterprise networks should be configured, so

that a secure state can be achieved. SECaaS also can be used to secure other cloud services. For enterprises that have higher risk than others, having a secure way to connect to the cloud is a must.

Hence, enterprises can have a layer of security between their assets and equipment that connects them to the cloud. Enterprise can install and deploy IPS on the cloud along with a DLP solution, so that data that is transmitted from Enterprise premises can be inspected before being sent to the cloud. This also can prevent sensitive data from transmission to another cloud without being detected.

Cloud Computing Security Market Outlook

The use of cloud services is growing rapidly in a broad range of areas as more companies start using the cloud. Employees are on the go with mobile devices with VPN connections and huge amounts of data being stored and analyzed in the cloud. The use of cloud-based solutions is growing at a rapid pace, and we predict that this growth will not slow down. It is important to understand what is moving this market forward in order to observe and understand the aligned security concerns. See Global Cloud Security Software Market for a more detailed breakdown of these growth drivers, as the following is a summary of their findings mixed with additional research (Technavio Insights).

Mobile Employees: The majority of employees are continually on the move. The rise of global firms and geographically dispersed operations require companies to provide employees with access to critical information through the cloud. Providing access to email, databases, documents, and records from anywhere at anytime is alarming and opens extra risks to a firms digital holdings. With mobility and travel for employees moving ever forward, cloud security is a growing and inevitable concern (McKendrick).
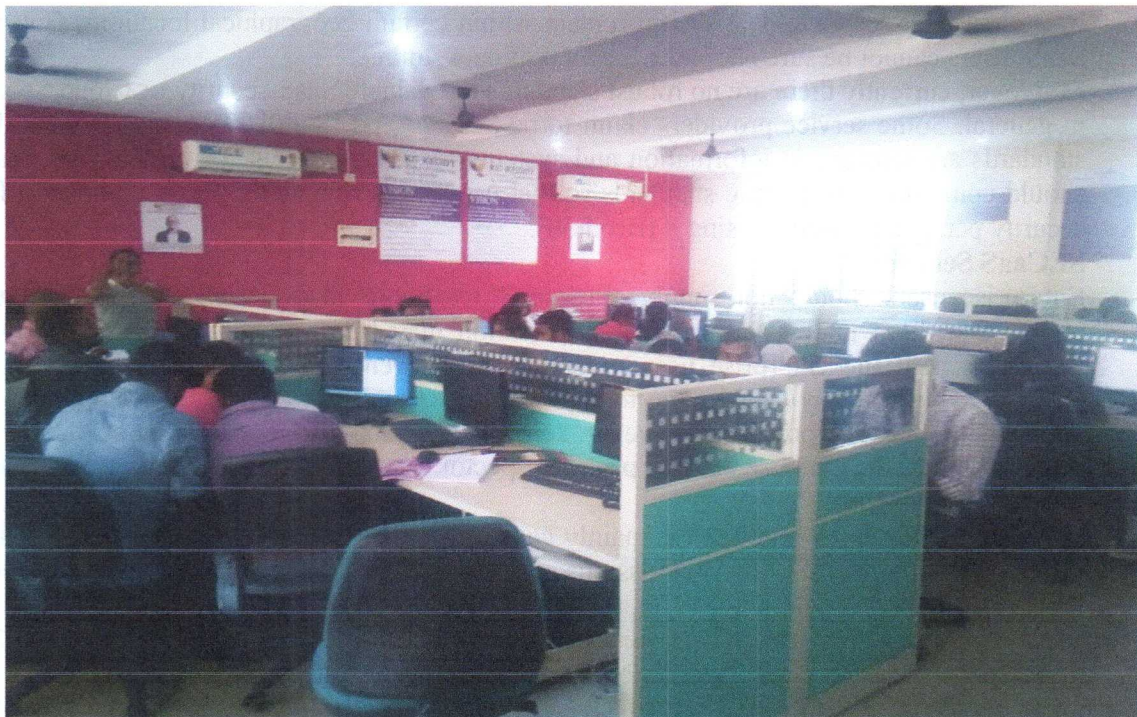
Specific Attacks on the Cloud: The cloud has been the Wild West of technology for the past few years. Until recently, cloud specific attacks were sparse due to the unknown and varying nature of cloud technologies. As these technologies mature and become more common,

honed, cloud-specific attacks are now real and dangerous. Companies and users put critical data in the cloud – this entices specific attacks on the cloud. A growing number of specific attacks on the cloud are forcing companies to find and implement robust cloud security solutions (Strauss).

Government Adoption: Large portions of government departments are adopting cloud-based services. Currently, government agencies account of cloud based security solution purchases (Technavio Insights). Government employees are on the go at the highest rate ever. Defense and Intelligence agencies rely on cutting edge technologies to stay abreast of threats and ahead of would be data thieves. Government has a mammoth amount of sensitive data to store, secure, and analyze.

Moreover, the government is the focal point of a large number of attacks. These reasons constitute the fact that cloud security solutions are needed to ensure the safety and continual use of the cloud by government.

Non-Traditional Adoption: Commonly, cloud based solutions are thought of as solutions for government or Fortune firms with big data problems. This common thought does not take into account the benefits that any firm finds by moving to the cloud. Social networks, file sharing networks, online gaming or gambling, streaming video, and other non-traditional cloud consumers are all moving to the cloud and are seeing huge advantages. Most email solutions (Gmail), social networks (Facebook), personal file storage (Dropbox), and online archive services use the cloud. These high adoption rates make the cloud a prime target for hackers to steal sensitive personal and company data.

Business Continuity and Disaster Recovery Solutions: An advantage of cloud based storage is its ability to store large amounts of data in secure locations in real-time (Crandell). Seamless integration and backups make the cloud a prime location to store, backup, and archive data. Websites and firms, large to small, all value the safety and security of redundancy and off-site backups. The cloud is a critical storage solution, whether the cloud is public or private. Companies are adopting cloud security solutions at a rapid pace; placing critical recovery data at great risk ("Onsite and Offsite Cloud Backups").

Cloud Security Market

The Cloud Security market is a growing market, and is relatively small when compared to the overall computer security market worldwide. In 2010, cloud security accounted for only 2-3% of the overall global computer security software market (Technavio Insights, McKendrick). Predictions estimate that cloud security, including SaaS, is outpacing the overall security market and will increase in size proportional to the whole. These insights and forecasts by top research institutions show the rapid growth of cloud security compared to the overall market. Based on the analysis of cloud computing, the rapid acceptance of its use, and the continuing improvement of security concerns,.

Predictions about the growth of the cloud security solutions market are based on estimates made by leading research firms, such as Forbes, Forrester, and Gartner. The graph below is an amalgamation of their predictions, showing how much companies will spend on cloud security solutions each year until 2021. Note that all values are in millions of dollars.

Ref No: KGRCET/CSE/2017-18/   Date: 02/01/2018

CIRCULAR

All the students of IV-Year II-semester B.Tech CSE are here by instructed to enroll for the certification course on "Cloud Computing & Security", which is offered by KG Reddy college of Engineering and Technology from 08/01/2018 to 13/01/2018. Interested students are instructed to contact Dr. Hemanta Kumar Bhuyan for completing their registration before 07/01/2018.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE COURSE ON CLOUD COMPUTING AND SECURITY

SCHEDULE

Day	Date	Timings	Topic name
1	08-01-18	09:00 to 11:00	Certificate Course on Cloud Computing and Security
		11:10 to 01:00	Security issues associated with the cloud
		01:45 to 02:50	Cloud security controls
		02:50 to 04:15	Dimensions of cloud security
2	09-01-18	09:00 to 11:00	Security and privacy
		11:10 to 01:00	Cloud Vulnerability and Penetration Testing
		01:45 to 02:50	Data security
		02:50 to 04:15	Confidentiality
3	10-01-18	09:00 to 11:00	Access controllability
		11:10 to 01:00	Integrity
		01:45 to 02:50	Encryption
		02:50 to 04:15	Attribute-based encryption (ABE)
4	11-01-18	09:00 to 11:00	Ciphertext-policy ABE (CP-ABE)
		11:10 to 01:00	Key-policy ABE (KP-ABE)
		01:45 to 02:50	Fully homomorphic encryption (FHE)
		02:50 to 04:15	Searchable encryption (SE)
5	12-01-18	09:00 to 11:00	Compliance
		11:10 to 01:00	Legal and contractual issues
		01:45 to 02:50	Public records
		02:50 to 04:15	Managing Risk in the Cloud

KG REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Chilkur (Vill) Moinabad (Mdl) R R Dist

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CERTIFICATE COURSE ON CLOUD COMPUTING AND SECURITY

ATTENDANCE SHEET

YEAR: IV   SEM: I   SEC: DATE: 8/01/2018

S.NO	ROLLNO	NAME	SIGN	
			FN	AN
1	14QM1A0502	A.SAI MANISH CHANDRA	Sai	Sai
2	14QM1A0503	A.RAJITHAREDDY	Rajitha	Rajitha
3	14QMIA0504	AMIT NAYAK	Amith	Amith
4	14QM1A0505	A.REVATHI	Revathi	Revathi
5	14QM1A0506	ASHMITA JAISWAL	Jaiswal	Jaiswal
6	14QM1A0507	A.NAGA SAI KRISHNA	Sai	Sai
7	14QM1A0509	B.SRAVYA	Sravya	Sravya
8	14QM1A0510	BBTS MRUNALINI	Mrunalini	Mrunalini
9	14QM1A0511	B SANJAY BHARGAV	Bhargav	Bhargav
10	14QM1A0512	B.SUSHMITHA	Sushmitha	Sushmitha
11	14QM1A0513	BARLAPALLY RAVALI	Ravali	Ravali
12	14QM1A0514	BOINAPALLI LALASA	Lalasa	Lalasa
13	14QM1A0515	B.RAVIKANTH REDDY	RAvikanth	RAvikanth
14	14QM1A0516	B.JAIPAL REDDY	JaiPal	JaiPal
15	14QM1A0517	CHAKALI VENKATESH	Venkatesh	Venkatesh
16	14QM1A0518	CH.BHARATH KALYAN	Kalyan	Kalyan
17	14QM1A0519	D AJAY KUMAR	Ajay	Ajay
18	14QM1A0520	D SHRAVYA	Shravya	Shravya
19	14QM1A0521	D.HIMA BINDU	Shivani	Shivani
20	14QM1A0522	G.RAMYA SHREE	Ramya	Ramya
21	14QM1A0523	G.JAGADEESHWARI	Jaga	Jaga
22	14QM1A0524	G.SNEHA	Sneha	Sneha
23	14QM1A0525	K.GANESH KUMAR	Ganesh	Ganesh
24	14QM1A0526	G.SRIKANTH	Ganesh	Ganesh
25	14QM1A0527	G.ARCHANA	srikanth	srikanth
26	14QM1A0528	G.MANJEET	manjeetha	manjeetha
27	14QM1A0529	G.SANDEEPKUMAR	Sandeep	Sandeep
28	14QM1A0530	RAJAT GUPTA	Gupta	Gupta
29	14QM1A0531	J.SHIVAKUMAR	Shiva	Shiva
30	14QM1A0532	J.MOUNIKA	Mounika	Mounika
31	14QM1A0534	K.SHARATH KUMAR	Sharath	Sharath
32	14QM1A0535	K.SIRISHA	Sirisha	Sirisha
33	14QM1A0536	K.GOPI KRISHNA	Gopi	Gopi
34	14QM1A0537	k.SHIVANGINI REDDY	Shivangir	Shivangir
35	14QM1A0538	K.SINDHU REDDY	Sindhu	Sindhu

36	14QM1A0542	K.PRATHYUSHA		
37	14QM1A0544	K.SWATHiRAJ		
38	14QM1A0545	K.SRAVANTHI REDDY		
39	14QM1A0547	KOMPALLYSRAVYA		
40	14QM1A0548	KONDA.PRASHANTH GOUD		
41	14QM1A0549	K.YASHWANTH		
42	14QM1A0550	K.RAGHUVEER REDDY		
43	14QM1A0551	K.ABHISHEK REDDY		
44	14QM1A0552	K.SAICHARAN REDDY		
45	14QM1A0553	KRISHNAMOORTHY		
46	14QM1A0555	M.SAINATH REDDY		

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YEAR: IV   SEM: I   DATE: 9/01/2018

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1	14QM1A0502	A.SAI MANISH CHANDRA	Manish	Manish
2	14QM1A0503	A.RAJITHAREDDY	Rajitha	Rajitha
3	14QMIA0504	AMIT NAYAK	Nayak	Nayak
4	14QM1A0505	A.REVATHI	Revathi	Revathi
5	14QM1A0506	ASHMITA JAISWAL	Ashitha	Ashmitha
6	14QM1A0507	A.NAGA SAI KRISHNA	Ashnitha	Ashnitha
7	14QM1A0509	B.SRAVYA	Sravya	Sravya
8	14QM1A0510	BBTS MRUNALINI	Mrunali	Mrunali
9	14QM1A0511	B SANJAY BHARGAV	Sanjay	Sanjay
10	14QM1A0512	B.SUSHMITHA	Sushmitha	Sushmitha
11	14QM1A0513	BARLAPALLY RAVALI	Ravali	Ravali
12	14QM1A0514	BOINAPALLI LALASA	Lalasa	Lalsa
13	14QM1A0515	B.RAVIKANTH REDDY	Ravikanth	Ravikanth
14	14QM1A0516	B.JAIPAL REDDY	Jaipal	Jaipal
15	14QM1A0517	CHAKALI VENKATESH	Venkatesh	Venkatesh
16	14QM1A0518	CH.BHARATH KALYAN	Bharath	Bharath
17	14QM1A0519	D AJAY KUMAR	Ajay	Ajay
18	14QM1A0520	D SHRAVYA	Shravya	Shravya
19	14QM1A0521	D.HIMA BINDU	Bindu	Bindu
20	14QM1A0522	G.RAMYA SHREE	Ramya	Ramya
21	14QM1A0523	G.JAGADEESHWARI	Jagadeshwari	Jagadeshwari
22	14QM1A0524	G.SNEHA	Sneha	Sneha
23	14QM1A0525	K.GANESH KUMAR	Ganesh	Ganesh
24	14QM1A0526	G.SRIKANTH	Srikanth	Srikanth
25	14QM1A0527	G.ARCHANA	Archana	Archana
26	14QM1A0528	G.MANJEET	Manjeet	Manjeet
27	14QM1A0529	G.SANDEEPKUMAR	Sandeep	Sandeep
28	14QM1A0530	RAJAT GUPTA	Gupta	Gupta
29	14QM1A0531	J.SHIVAKUMAR	Shiva	Shiva
30	14QM1A0532	J.MOUNIKA	Mounika	Mounika
31	14QM1A0534	K.SHARATH KUMAR	Sharath	Sharath
32	14QM1A0535	K.SIRISHA	Sirisha	Sirisha
33	14QM1A0536	K.GOPI KRISHNA	Gopi	Gopi
34	14QM1A0537	k.SHIVANGINI REDDY	Shivangini	Shivangini
35	14QM1A0538	K.SINDHU REDDY	Sindu	Sindu

36	14QM1A0542	K.PRATHYUSHA		
37	14QM1A0544	K.SWATHIRAJ		
38	14QM1A0545	K.SRAVANTHI REDDY		
39	14QM1A0547	KOMPALLYSRAVYA		
40	14QM1A0548	KONDA.PRASHANTH GOUD		
41	14QM1A0549	K.YASHWANTH		
42	14QM1A0550	K.RAGHUVEER REDDY		
43	14QM1A0551	K.ABHISHEK REDDY		
44	14QM1A0552	K.SAICHARAN REDDY		
45	14QM1A0553	KRISHNAMOORTHY		
46	14QM1A0555	M.SAINATH REDDY		

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YEAR: IV   SEM: I   DATE: 10/01/2018

S.NO	ROLLNO	NAME	SIGN FN	SIGN AN
1	14QM1A0502	A.SAI MANISH CHANDRA	manish	manish
2	14QM1A0503	A.RAJITHAREDDY	Rajitha	Rajitha
3	14QMIA0504	AMIT NAYAK	Amit	Amit
4	14QM1A0505	A.REVATHI	Revathi	Revathi
5	14QM1A0506	ASHMITA JAISWAL	Jaiswal	Jaiswal
6	14QM1A0507	A.NAGA SAI KRISHNA	Sai	Sai
7	14QM1A0509	B.SRAVYA	Sravya	Sravya
8	14QM1A0510	BBTS MRUNALINI	mrunalini	mrunalini
9	14QM1A0511	B SANJAY BHARGAV	Sanjay	Sanjay
10	14QM1A0512	B.SUSHMITHA	Sushmitha	Sushmitha
11	14QM1A0513	BARLAPALLY RAVALI	Ravali	Ravali
12	14QM1A0514	BOINAPALLI LALASA	Lalasa	Lalasa
13	14QM1A0515	B.RAVIKANTH REDDY	Ravi	Ravi
14	14QM1A0516	B.JAIPAL REDDY	Jaipal	Jaipal
15	14QM1A0517	CHAKALI VENKATESH	Venktesh	Venktesh
16	14QM1A0518	CH.BHARATH KALYAN	kalyan	kalyan
17	14QM1A0519	D AJAY KUMAR	Ajay	Ajay
18	14QM1A0520	D SHRAVYA	Shravya	Shravya
19	14QM1A0521	D.HIMA BINDU	Bindu	Bindu
20	14QM1A0522	G.RAMYA SHREE	Ramya	Ramya
21	14QM1A0523	G.JAGADEESHWARI	Jagdeeshwari	Jagdeeshwari
22	14QM1A0524	G.SNEHA	Sneha	Sneha
23	14QM1A0525	K.GANESH KUMAR	Ganesh	Ganesh
24	14QM1A0526	G.SRIKANTH	Srikanth	Srikanth
25	14QM1A0527	G.ARCHANA	Archana	Archana
26	14QM1A0528	G.MANJEET	manjeetta	manjeetta
27	14QM1A0529	G.SANDEEPKUMAR	Sandeep	Sandeep
28	14QM1A0530	RAJAT GUPTA	Rajat	Rajat
29	14QM1A0531	J.SHIVAKUMAR	Shiva	Shiva
30	14QM1A0532	J.MOUNIKA	Mounika	Mounika
31	14QM1A0534	K.SHARATH KUMAR	Sharath	Sharath
32	14QM1A0535	K.SIRISHA	Sirisha	Sirisha
33	14QM1A0536	K.GOPI KRISHNA	Gopi	Gopi
34	14QM1A0537	k.SHIVANGINI REDDY	Shivangini	Shivangini
35	14QM1A0538	K.SINDHU REDDY	Sindhu	Sindhu

36	14QM1A0542	K.PRATHYUSHA		
37	14QM1A0544	K.SWATHIRAJ		
38	14QM1A0545	K.SRAVANTHI REDDY		
39	14QM1A0547	KOMPALLYSRAVYA		
40	14QM1A0548	KONDA.PRASHANTH GOUD		
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42	14QM1A0550	K.RAGHUVEER REDDY		
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YEAR: IV   SEM: I

DATE: 11/01/2018

S.NO	ROLLNO	NAME	SIGN	
			FN	AN
1	14QM1A0502	A.SAI MANISH CHANDRA		
2	14QM1A0503	A.RAJITHAREDDY		
3	14QMIA0504	AMIT NAYAK		
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10	14QM1A0512	B.SUSHMITHA		
11	14QM1A0513	BARLAPALLY RAVALI		
12	14QM1A0514	BOINAPALLI LALASA		
13	14QM1A0515	B.RAVIKANTH REDDY		
14	14QM1A0516	B.JAIPAL REDDY		
15	14QM1A0517	CHAKALI VENKATESH		
16	14QM1A0518	CH.BHARATH KALYAN		
17	14QM1A0519	D AJAY KUMAR		
18	14QM1A0520	D SHRAVYA		
19	14QM1A0521	D.HIMA BINDU		
20	14QM1A0522	G.RAMYA SHREE		
21	14QM1A0523	G.JAGADEESHWARI		
22	14QM1A0524	G.SNEHA		
23	14QM1A0525	K.GANESH KUMAR		
24	14QM1A0526	G.SRIKANTH		
25	14QM1A0527	G.ARCHANA		
26	14QM1A0528	G.MANJEET		
27	14QM1A0529	G.SANDEEPKUMAR		
28	14QM1A0530	RAJAT GUPTA		
29	14QM1A0531	J.SHIVAKUMAR		
30	14QM1A0532	J.MOUNIKA		
31	14QM1A0534	K.SHARATH KUMAR		
32	14QM1A0535	K.SIRISHA		
33	14QM1A0536	K.GOPI KRISHNA		
34	14QM1A0537	k.SHIVANGINI REDDY		
35	14QM1A0538	K.SINDHU REDDY		

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37	14QM1A0544	K.SWATHIRAJ		
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DATE: 12/01/2018

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1	14QM1A0502	A.SAI MANISH CHANDRA	Manish	Manish
2	14QM1A0503	A.RAJITHAREDDY	Rajitha	Rajitha
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4	14QM1A0505	A.REVATHI	Revathi	Revathi
5	14QM1A0506	ASHMITA JAISWAL	Ashmita	Ashmita
6	14QM1A0507	A.NAGA SAI KRISHNA	Sai	Sai
7	14QM1A0509	B.SRAVYA	Sravya	Sravya
8	14QM1A0510	BBTS MRUNALINI	Mrunalini	Mrunalini
9	14QM1A0511	B SANJAY BHARGAV	Sanjay	Sanjay
10	14QM1A0512	B.SUSHMITHA	Sushmitha	Sushmitha
11	14QM1A0513	BARLAPALLY RAVALI	Ravali	Ravali
12	14QM1A0514	BOINAPALLI LALASA	Lalasa	Lalasa
13	14QM1A0515	B.RAVIKANTH REDDY	Ravi	Ravi
14	14QM1A0516	B.JAIPAL REDDY	Jaipal	Jaipal
15	14QM1A0517	CHAKALI VENKATESH	Venkat	Venkat
16	14QM1A0518	CH.BHARATH KALYAN	Kalyan	Kalyan
17	14QM1A0519	D AJAY KUMAR	Ajay	Ajay
18	14QM1A0520	D SHRAVYA	Shravya	Shravya
19	14QM1A0521	D.HIMA BINDU	Hima	Hima
20	14QM1A0522	G.RAMYA SHREE	Ramya	Ramya
21	14QM1A0523	G.JAGADEESHWARI	Jaga	Jaga
22	14QM1A0524	G.SNEHA	Sneha	Sneha
23	14QM1A0525	K.GANESH KUMAR	Ganesh	Ganesh
24	14QM1A0526	G.SRIKANTH	Srikanth	Srikanth
25	14QM1A0527	G.ARCHANA	Archana	Archana
26	14QM1A0528	G.MANJEET	Manjeet	Manjeet
27	14QM1A0529	G.SANDEEPKUMAR	Sandeep	Sandeep
28	14QM1A0530	RAJAT GUPTA	Rajat	Rajat
29	14QM1A0531	J.SHIVAKUMAR	Shiva	Shiva
30	14QM1A0532	J.MOUNIKA	Mounika	Mounika
31	14QM1A0534	K.SHARATH KUMAR	Sirisha	Sirisha
32	14QM1A0535	K.SIRISHA	Sirisha	Sirish
33	14QM1A0536	K.GOPI KRISHNA	Gopi	Gopi
34	14QM1A0537	k.SHIVANGINI REDDY	Shiva	Shiva
35	14QM1A0538	K.SINDHU REDDY	Sindu	Sindu

36	14QM1A0542	K.PRATHYUSHA		
37	14QM1A0544	K.SWATHIRAJ		
38	14QM1A0545	K.SRAVANTHI REDDY		
39	14QM1A0547	KOMPALLYSRAVYA		
40	14QM1A0548	KONDA.PRASHANTH GOUD		
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ATTENDANCE SHEET

YEAR: IV   SEM: I   DATE: 8/01/2018

S.NO	ROLLNO	NAME	SIGN FN	SIGN AN
1	14QM1A0556	M SRAVANTHI		
2	14QM1A0557	M VENKATESH		
3	14QM1A0558	M.VASAVI REDDY		
4	14QM1A0560	MALGARI TRILOK REDDY		
5	14QM1A0562	MANDHA SAIKIRAN REDDY		
6	14QM1A0563	MOHAMMAD IRFAN		
7	14QM1A0565	MUNUGALA PREETHI		
8	14QM1A0566	MUTTIREDDY VENKAT MAHESH		
9	14QM1A0567	N V LAKSHMI NEELIMA		
10	14QM1A0568	NAMIREDDY GOWTHAM REDDY		
11	14QM1A0571	P PUSHWANTH REDDY		
12	14QM1A0572	P SAI CHARAN		
13	14QM1A0573	P.POOJA		
14	14QM1A0574	PADIGOMLA VIKAS REDDY		
15	14QM1A0575	PANTULA SHASHIDHAR REDDY		
16	14QM1A0576	PININTI AJAY REDDY		
17	14QM1A0580	RAMAGALLA VINOD KUMAR		
18	14QM1A0581	RASHMI KUMARI		
19	14QM1A0582	RAVULA ASHWINI		
20	14QM1A0583	REDDY ROHIT REDDY		
21	14QM1A0585	S SAMASTER OF BUSINESS ADMINISTRATION SIVAN		
22	14QM1A0586	SADALA RAMYA		
23	14QM1A0587	SALIVENDRI MALLIKARJUN REDDY		
24	14QM1A0588	SAMALA RAGHAVENDAR REDDY		
25	14QM1A0589	SAMBOJU ABHILASH		
26	14QM1A0590	SHASHANK REDDY DODLA		
27	14QM1A0591	SIMUNI CHANDANA REDDY		
28	14QM1A0592	SIRIGANAGARI HARI CHANDANA REDDY		
29	14QM1A0593	SONTI HARIKA		
30	14QM1A0594	SUDEEP KUMAR JAISWAL		
31	14QM1A0595	SUNIL YADAV		
32	14QM1A0598	TEEGALA ANUSHA REDDY		
33	14QM1A0599	TEEGALA NANDINI REDDY		
34	14QM1A05A0	THANNIRU MALLIKHARJUN		

S.NO	ROLLNO	NAME	SIGN	
			FN	AN
35	14QM1A05A1	THUNGA NIKITHA		
37	14QM1A05A2	TIPPANIBOINA SWAPNA		
38	14QM1A05A3	USHARANI PEESARI		
39	14QM1A05A6	VELAGA PALLI STEEWEN AKSHAY PAUL		
40	14QM1A05A7	VUSTELA SWATHI		

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1	14QM1A0556	M SRAVANTHI		
2	14QM1A0557	M VENKATESH	Venkat	Venkat
3	14QM1A0558	M.VASAVI REDDY	Vasavi	Vasavi
4	14QM1A0560	MALGARI TRILOK REDDY	Trilok	Trilok
5	14QM1A0562	MANDHA SAIKIRAN REDDY	Kiran	Kiran
6	14QM1A0563	MOHAMMAD IRFAN	Irfan	Irfan
7	14QM1A0565	MUNUGALA PREETHI	Preethi	Preethi
8	14QM1A0566	MUTTIREDDY VENKAT MAHESH	Venkat	Venkat
9	14QM1A0567	N V LAKSHMI NEELIMA	Neelima	Neelima
10	14QM1A0568	NAMIREDDY GOWTHAM REDDY	Gow	Gow
11	14QM1A0571	P PUSHWANTH REDDY	Push	Push
12	14QM1A0572	P SAI CHARAN	Charan	Charan
13	14QM1A0573	P.POOJA	Pooja	Pooja
14	14QM1A0574	PADIGOMLA VIKAS REDDY	Vika	Vika
15	14QM1A0575	PANTULA SHASHIDHAR REDDY	Shashi	Shashi
16	14QM1A0576	PININTI AJAY REDDY	Ajay	Ajay
17	14QM1A0580	RAMAGALLA VINOD KUMAR	Vinod	Vinod
18	14QM1A0581	RASHMI KUMARI	Rashmi	Rashmi
19	14QM1A0582	RAVULA ASHWINI	Ashwini	Ashwini
20	14QM1A0583	REDDY ROHIT REDDY	Rohit	Rohit
21	14QM1A0585	S SAMASTER OF BUSINESS ADMINISTRATION SIVAN	Sivan	Sivan
22	14QM1A0586	SADALA RAMYA	Ramya	Ramya
23	14QM1A0587	SALIVENDRI MALLIKARJUN REDDY		
24	14QM1A0588	SAMALA RAGHAVENDAR REDDY	Raghu	Raghu
25	14QM1A0589	SAMBOJU ABHILASH	Aby	Aby
26	14QM1A0590	SHASHANK REDDY DODLA	Shashank	Shashank
27	14QM1A0591	SIMUNI CHANDANA REDDY	Chandana	Chandana
28	14QM1A0592	SIRIGANAGARI HARI CHANDANA REDDY	Hari	Hari
29	14QM1A0593	SONTI HARIKA	Harika	Harika
30	14QM1A0594	SUDEEP KUMAR JAISWAL	Sudeep	Sudeep
31	14QM1A0595	SUNIL YADAV	Sunilyadav	Sunilyadav
32	14QM1A0598	TEEGALA ANUSHA REDDY	Anusha	Anusha
33	14QM1A0599	TEEGALA NANDINI REDDY	Nandini	Nandini
34	14QM1A05A0	THANNIRU MALLIKHARJUN	Malli	Malli

S.NO	ROLLNO	NAME	SIGN	
			FN	AN
35	14QM1A05A1	THUNGA NIKITHA	*Nikitha*	*Nikitha*
37	14QM1A05A2	TIPPANIBOINA SWAPNA	*Swapna*	*Swapna*
38	14QM1A05A3	USHARANI PEESARI	*Usharani*	*Usharani*
39	14QM1A05A6	VELAGA PALLI STEEWEN AKSHAY PAUL	*Akshay*	*Akshay*
40	14QM1A05A7	VUSTELA SWATHI	*Swathi*	*Swathi*

HOD

HEAD
DEPT. OF COMPUTER SCIENCE & ENGINEERING
K.G. REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
CHILKUR (V), MOINABAD, R.R. DIST.501 504.

KG REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
Chilkur (Vill) Moinabad (Mdl) R R Dist
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CERTIFICATE COURSE ON CLOUD COMPUTING AND SECURITY

ATTENDANCE SHEET

YEAR: IV   SEM: I   DATE: 10/01/2018

S.NO	ROLLNO	NAME	SIGN FN	SIGN AN
1	14QM1A0556	M SRAVANTHI		
2	14QM1A0557	M VENKATESH		
3	14QM1A0558	M.VASAVI REDDY		
4	14QM1A0560	MALGARI TRILOK REDDY		
5	14QM1A0562	MANDHA SAIKIRAN REDDY		
6	14QM1A0563	MOHAMMAD IRFAN		
7	14QM1A0565	MUNUGALA PREETHI		
8	14QM1A0566	MUTTIREDDY VENKAT MAHESH		
9	14QM1A0567	N V LAKSHMI NEELIMA		
10	14QM1A0568	NAMIREDDY GOWTHAM REDDY		
11	14QM1A0571	P PUSHWANTH REDDY		
12	14QM1A0572	P SAI CHARAN		
13	14QM1A0573	P.POOJA		
14	14QM1A0574	PADIGOMLA VIKAS REDDY		
15	14QM1A0575	PANTULA SHASHIDHAR REDDY		
16	14QM1A0576	PININTI AJAY REDDY		
17	14QM1A0580	RAMAGALLA VINOD KUMAR		
18	14QM1A0581	RASHMI KUMARI		
19	14QM1A0582	RAVULA ASHWINI		
20	14QM1A0583	REDDY ROHIT REDDY		
21	14QM1A0585	S SAMASTER OF BUSINESS ADMINISTRATION SIVAN		
22	14QM1A0586	SADALA RAMYA		
23	14QM1A0587	SALIVENDRI MALLIKARJUN REDDY		
24	14QM1A0588	SAMALA RAGHAVENDAR REDDY		
25	14QM1A0589	SAMBOJU ABHILASH		
26	14QM1A0590	SHASHANK REDDY DODLA		
27	14QM1A0591	SIMUNI CHANDANA REDDY		
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30	14QM1A0594	SUDEEP KUMAR JAISWAL		
31	14QM1A0595	SUNIL YADAV		
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38	14QM1A05A3	USHARANI PEESARI		
39	14QM1A05A6	VELAGA PALLI STEEWEN AKSHAY PAUL		
40	14QM1A05A7	VUSTELA SWATHI		

HOD

KG REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
Chilkur (Vill) Moinabad (Mdl) R R Dist
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CERTIFICATE COURSE ON CLOUD COMPUTING AND SECURITY

ATTENDANCE SHEET

YEAR: IV   SEM: I   DATE: 11/01/2018

S.NO	ROLLNO	NAME	SIGN FN	SIGN AN
1	14QM1A0556	M SRAVANTHI		
2	14QM1A0557	M VENKATESH	Venkat	Venkat
3	14QM1A0558	M.VASAVI REDDY	Vasavi	Vasavi
4	14QM1A0560	MALGARI TRILOK REDDY	Trilok	Trilok
5	14QM1A0562	MANDHA SAIKIRAN REDDY	Sai	Sai
6	14QM1A0563	MOHAMMAD IRFAN	Irfan	Irfan
7	14QM1A0565	MUNUGALA PREETHI	Preethi	Preethi
8	14QM1A0566	MUTTIREDDY VENKAT MAHESH		
9	14QM1A0567	N V LAKSHMI NEELIMA	Neelima	Neelima
10	14QM1A0568	NAMIREDDY GOWTHAM REDDY	Gow	Gow
11	14QM1A0571	P PUSHWANTH REDDY	Push	Push
12	14QM1A0572	P SAI CHARAN	Sai charan	Sai charan
13	14QM1A0573	P.POOJA	Pooja	Pooja
14	14QM1A0574	PADIGOMLA VIKAS REDDY	Vikas	Vikas
15	14QM1A0575	PANTULA SHASHIDHAR REDDY	shashi	shashi
16	14QM1A0576	PININTI AJAY REDDY	Ajay	Ajay
17	14QM1A0580	RAMAGALLA VINOD KUMAR	Vinod	Vinod
18	14QM1A0581	RASHMI KUMARI	Rashmi	Rashmi
19	14QM1A0582	RAVULA ASHWINI	Ashwini	Ashwini
20	14QM1A0583	REDDY ROHIT REDDY	Rohit	Rohit
21	14QM1A0585	S SAMASTER OF BUSINESS ADMINISTRATION SIVAN	Sivan	Sivan
22	14QM1A0586	SADALA RAMYA	Ramya	Ramya
23	14QM1A0587	SALIVENDRI MALLIKARJUN REDDY	Malli	Malli
24	14QM1A0588	SAMALA RAGHAVENDAR REDDY	Raghavendar	Raghavendar
25	14QM1A0589	SAMBOJU ABHILASH	Abhi	Abhi
26	14QM1A0590	SHASHANK REDDY DODLA	Dodla	Dodla
27	14QM1A0591	SIMUNI CHANDANA REDDY	chandana	chandana
28	14QM1A0592	SIRIGANAGARI HARI CHANDANA REDDY	chandana	chandana
29	14QM1A0593	SONTI HARIKA	Harika	Harika
30	14QM1A0594	SUDEEP KUMAR JAISWAL	Sundep	Sundep
31	14QM1A0595	SUNIL YADAV	Sunil	Sunil
32	14QM1A0598	TEEGALA ANUSHA REDDY	Anusha	anusha
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CERTIFICATE COURSE ON CLOUD COMPUTING AND SECURITY

ATTENDANCE SHEET

YEAR: IV   SEM: I   DATE: 12/01/2018

S.NO	ROLLNO	NAME	SIGN FN	SIGN AN
1	14QM1A0556	M SRAVANTHI		
2	14QM1A0557	M VENKATESH	Venket	Venket
3	14QM1A0558	M.VASAVI REDDY	Vasavi	Vasavi
4	14QM1A0560	MALGARI TRILOK REDDY	Trilok	Trilok
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6	14QM1A0563	MOHAMMAD IRFAN	Irfan	Irfan
7	14QM1A0565	MUNUGALA PREETHI	Preethi	Preethi
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23	14QM1A0587	SALIVENDRI MALLIKARJUN REDDY	Mallik	Mallik
24	14QM1A0588	SAMALA RAGHAVENDAR REDDY	Samala	Samala
25	14QM1A0589	SAMBOJU ABHILASH	Abhilash	Abhilash
26	14QM1A0590	SHASHANK REDDY DODLA	Shashank	Shashank
27	14QM1A0591	SIMUNI CHANDANA REDDY	Chandana	Chandana
28	14QM1A0592	SIRIGANAGARI HARI CHANDANA REDDY	chandana	chandana
29	14QM1A0593	SONTI HARIKA	Harika	Harika
30	14QM1A0594	SUDEEP KUMAR JAISWAL	Sudeep	Sun
31	14QM1A0595	SUNIL YADAV	Sonil	Sonil
32	14QM1A0598	TEEGALA ANUSHA REDDY	Anu	Anu
33	14QM1A0599	TEEGALA NANDINI REDDY	Nandini	Nandini
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40	14QM1A05A7	VUSTELA SWATHI		

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28/30

NAME __Ajay.__   HALL TICKET NO | 1 | 4 | Q | M | 1 | A | 0 | 5 | 1 | 9 |

Answer all the questions. All questions carry equal marks. Time: 30min. 30 marks.

I choose correct alternative:

1. Which of the following was one of the top 5 cloud applications in 2010?   [d]
a) Cloud backup   b) Web applications
c) Business applications   d) All of the mentioned

2. Point out the correct statement :   [c]
a) Google's cloud includes perhaps some 10 data centers worldwide
b) Flipkart.com's infrastructure was built to support elastic demand so the system could accommodate peak traffic
c) Data centers have been sited to optimize the overall system latency
d) All of the mentioned

3. Which of the following benefit is related to creates resources that are pooled together in a system that supports multi-tenant usage ?   [a]
a) On-demand self-service   b) Broad network access
c) Resource pooling   d) All of the mentioned.

4. The _____ is something that you can obtain under contract from your vendor.   [b]
a) PoS b) QoS c) SoS d) All of the mentioned

5. Point out the wrong statement :   [a]
a) Internet consumes roughly 1 percent of the world's total power
b) The cost advantages of cloud computing have enabled new software vendors to create productivity applications
c) A client can provision computer resources without the need for interaction with cloud service provider personnel
d) None of the mentioned

6. All cloud computing applications suffer from the inherent _____ that is intrinsic in their WAN connectivity.   [b]
a) propagation b) latency   c) noise   d) all of the mentioned

7. Cloud computing is a _____ system and it is necessarily unidirectional in nature.
a) stateless   b) stateful   c) reliable   d) all of the mentioned   [a]

8. Which of the following is most important area of concern in cloud computing ?   [a]
a) Security   b) Storage   c) Scalability d) All of the mentioned   [   ]

9. You can't count on a cloud provider maintaining your _____ in the face of government actions.
a) scalability   b) reliability   c) privacy   d) none of the mentioned   [c]

10. Which of the following architectural standards is working with cloud computing industry ?
a) Service-oriented architecture   b) Standardized Web services   [a]
c) Web-application frameworks   d) All of the mentioned

11. Which of the following is one of the unique attribute of Cloud Computing ?   [d]
a) utility type of delivery   b) elasticity   c) low barrier to entry d) all of the mentioned

12. Point out the correct statement :   [c]
a) Service Level Agreements (SLAs) is small aspect of cloud computing
b) Cloud computing does not have impact on software licensing
c) Cloud computing presents new opportunities to users and developers
d) All of the mentioned

13. Applications that work with cloud computing that have low margins and usually low risk are:
a) high touch   b) low touch   c) moderate touch   d) all of the mentioned   [b]

14. A service that concentrates on hardware follows the _____ as a Service model.
a) IaaS b) CaaS   c) PaaS   d) All of the mentioned   [a]

15. Point out the wrong statement :   [c]
a) A cloud is defined as the combination of the infrastructure of a datacenter with the ability to provision hardware and software
b) High touch applications are best done on-premises
c) The Google App Engine follows IaaS   d) None of the mentioned

16. When you add a software stack, such as an operating system and applications to the service, the model shifts to _____ model.   [b]
a) SaaS   b) PaaS   c) IaaS d) All of the mentioned

17. Which of the following is most refined and restrictive service model ?   [c]
a) IaaS b) CaaS   c) PaaS   d) All of the mentioned

18. _____ is a pay-as-you-go model matches resources to need on an ongoing basis.
a) Utility   b) Elasticity   c) Low barrier to entry d) All of the mentioned   [a]

19. _____ feature allows you to optimize your system and capture all possible transactions.
a) scalability   b) reliability   c) elasticity   d) none of the mentioned   [c]

20. _____ enables batch processing, which greatly speeds up high-processing applications.
a) Scalability b) Reliability c) Elasticity   d) Utility   [a]

21. _____ blurs the differences between a small deployment and a large one because scale becomes tied only to demand.   [b]
a) Leading   b) Pooling   c) Virtualization   d) All of the mentioned

22. Point out the correct statement :   [b]
a) A branded cloud computing platform cannot extend customer relationships by offering additional service options
b) A cloud computing platform extends the company's products and defends their franchise
c) The economies of scale cannot make a profitable business
d) All of the mentioned

23. A _____ is a facility that is a self-contained semiconductor assembly line.   [a]
a) fab   b) touch   c) rep   d) all of the mentioned

24. How many laws exist for Cloudonomics by Weinman?   [c]
a) 4   b) 5   c) 10   d) 15

25. Point out the wrong statement :   [b]
a) Google App Engine allows a developer to scale an application immediately
b) The customer relationship management provider SalesForce.com has a development platform called Force.com that is an IaaS offering
c) A cloud computing provider can become a hub master at the center of many ISVs offerings
d) None of the mentioned

26. Cutting latency in half requires _____ times the number of nodes in a system. [d]
a) two b) three   c) four d) all of the mentioned

27. Weinman argues that a large cloud's size has the ability to repel _____ and DDoS attacks better than smaller systems do.   [b]
a) sniffers   b) botnets   c) trojan horse d) all of the mentioned

28. The reliability of a system with n redundant components and a reliability of r is :
a) 1-(1-r)n   b) 1-(1+r)n   c) 1+(1-r)n   d) All of the mentioned   [a]

29. A _____ site is one that is environmentally friendly: locations that are on a network backbone.   [a]
a) greenfield   b) redfield   c) greenful   d) none of the mentioned

30. The peak of the sum is never _____ than the sum of the peaks.   [b]
a) smaller   b) greater   c) equal to   d) none of the mentioned

KG REDDY
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CERTIFICATE

Name: A.REVATHI

Registration No: 14QM1A0505

has successfully completed the prescribed requirements for the award of certificate course on " **Cloud Computing and Security** " conducted by Department of Computer Science and Engineering held in month of January from 08/01/2018 to 13/01/2018 in the academic year 2017-2018.

Date: 17/01/2018

Course Coordinator

PRINCIPAL
Principal
KG Reddy College of Engineering & Technolog
Chilkur (V), Moinabad (M).
R.R.Dist., Telangana.

KG REDDY
College of Engineering
&Technology

CERTIFICATE

Name: BARLAPALLY RAVALI

Registration No: 14QM1A0513

has successfully completed the prescribed requirements for the award of certificate course on " **Cloud Computing and Security** " conducted by Department of Computer Science and Engineering held in month of January from 08/01/2018 to 13/01/2018 in the academic year 2017-2018.

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