

Course Name: Cloud Computing	Course Code: ITNT304
pre-requisite: ITNT302- Network Management/ITSY406- Network Security Management	Credit Hours: 3
Passing Grade: C	Level: B.Tech
No. Of Theory & Practical Hours (2:2)	
Goal: This course provides the students to understand the concepts and mechanisms behind Cloud Computing that are essential in leveraging the potentials of this technology for various computing endeavors.	
Objectives: The course should enable the student to : <ul style="list-style-type: none"> • Understand the current developments in Cloud Computing and its supporting concepts and technology. • Evaluate the short-term and long-term economic value of Cloud Computing to an organization • Recognize the importance of virtualization technology in support of Cloud Computing. • Design an organizational strategy to harness Cloud Computing functionalities to support collaboration and services. 	
Outcomes	Method
1. Define Cloud Computing and describe its delivery and deployment models.	Theory
2. Understand and be able to explain the benefits of the various cloud computing architectures by assessing their financial values through the calculation of cost savings and cost avoidance figures.	Theory
3. Demonstrate how cloud computing architectures are designed.	Theory
4. Analyze and explain the benefits of application scaling and hybrid design.	Theory Practical
5. Illustrate the processes and/or frameworks used in the development by implementation Cloud Computing applications and services. Suggestion:	Theory & Practical
6. Design a virtualization infrastructure that supports a Cloud Computing environment for Infrastructure, Software and Platform.	Theory & Practical

7. Demonstrate how to apply the NIST security Risk Management Assessment Framework to cloud computing solutions and how to mitigate risks identified in the Framework	Theory
8. Define FedRAMP and its impact on cloud computing in the federal government, and identify gaps that agencies will need to close even with the implementation of FedRAMP	Theory
<p>Hardware /Software Tools:</p> <ul style="list-style-type: none"> • Virtualization Software - Hyper-V, VMware, Oracle VM VirtualBox • Servers – Windows Server 2008 R2, Linux 	
<p>Book:</p> <ul style="list-style-type: none"> • Velte, A., Velte, T., Elsenpeter, R., (2010), CloudComputing: A Practical Approach, McGraw-Hill Osborne (Primary book to be used). 	
<p>Reference Book:</p> <ul style="list-style-type: none"> • Reese, G., (2009), Cloud Application Architectures:Building Applications and Infrastructure in the Cloud,O’Reilly, USA (Secondary book from which 3-4chapters are likely to be used). • Bill Williams (2012), The Economics of Cloud Computing, Cisco Press • David E.Y. Sarna (2011), Implementing and Developing Cloud ComputingApplications, Auerbach Publications • Stephen R. Smoot and Nam K. Tan (2011), Private Cloud Computing Consolidation, Virtualization, and Service-Oriented Infrastructure, Elsevier • Christian Baun, Marcel Kunze, Jens Nimis and Stefan Tai (2011), Cloud Computing – Web-Based Dynamic IT Services, Springer • RajkumarBuyya, James Broberg and AndrzejGoscinski, ed. (2010), Cloud Computing – Principles and Paradigms, Wiley and Sons Publications 	