



Kot Bhalwal, Jammu



Model Institute of Engineering
& Technology (Autonomous)
Course Handout

COURSE HANDOUT

CLOUD COMPUTING (BFSMI-306(A))

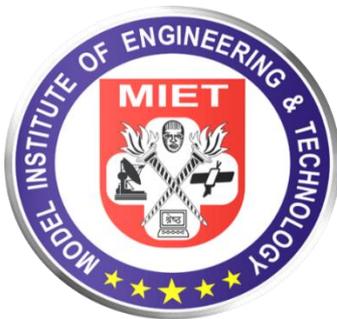
BBA(BFSI) -3rd SEMESTER

ACADEMIC YEAR (2024-25)

Mr. Parveen Sharma

Assistant Professor

School of Management



PG -School of Management

Model Institute of Engineering & Technology (Autonomous)

KotBhalwal, Jammu - 181122

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Dr. Arun K. Gupta Teaching-Learning Centre

Version 1.1



Please Do Not Print Unless Necessary



Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
BFSMI-306(A)	Cloud Computing	Minor	4	4	0	0	40	60	100

COURSE OUTCOMES

At the end of the course the student will be able to:	
CO1	Describe the main concepts of cloud computing.
CO2	Interpret architecture and infrastructure of cloud computing.
CO3	Compile the value of cloud computing from a business perspective.
CO4	Analyze the core issues of cloud computing such as security, privacy, and risk.
CO5	Evaluate the emerging trends of cloud computing.

Detailed Syllabus Section A

Unit-I

Introduction to Cloud Computing: Introduction to Cloud Computing, History and Evolution of Cloud Computing, Grid Computing vs Cloud Computing, – Cloud components - Essential characteristics – On-demand self-service, Comparing cloud providers, pros and cons of cloud computing, Cloud applications, Cloud challenges. (10 Hrs)

Unit-II

Cloud Computing Architecture: Layers in cloud architecture, Cloud Delivery models, The SPI Framework, Cloud Software as a Service (SaaS), Cloud Platform as a Service (PaaS), Cloud Infrastructure as a Service(IaaS), Cloud deployment models-Public clouds – Private clouds – Community clouds - Hybrid clouds. (10 Hrs)

Section B

Unit-III

Cloud Business Value: Reducing Costs and Increasing Efficiency through Scalability, Reducing IT Administrative Overhead, Increasing Organizational Agility, Examining the Business Impact, Evaluating Cloud Computing Costs and Choosing the Appropriate Cloud Model. (10 Hrs)

Unit-IV

Security in the Cloud: Cloud Computing Risk Issues: The CIA Triad, Privacy and Compliance Risks, Threats to Infrastructure, Data and Cloud Access Control Issues, Cloud Service Provider Risks. Cloud Computing Security challenges. (09 Hrs)

Unit-V

Emerging trends in Cloud computing: Multi and Hybrid Cloud Deployment, Edge Computing, Cloud-Native Applications, The AI and ML-Powered Cloud, Internet of Things. (09 Hrs)



Textbooks

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Cloud Essentials	Kirk Hausman Susan L. Cook Telmo Sampaio	Wiley Publishing	1st (2013)
2.	Cloud Computing	Judith Hurwitz, Robin Bloor, Marcia Kaufman, and Dr. Fern Halper	Wiley Publishing	2nd (2020)

Reference Books

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Handbook of Cloud Computing	Borko Furht. Armando Escalante	Pearson Education (US)	1st (2010)
2	Essentials of Cloud Computing	K.Chandrasekaran	Taylor & Francis group	2015



COURSE PLAN		
Unit-I Introduction to Cloud Computing		
S.No	Topics	Recommended Books
1	Introduction to Cloud Computing,	Reference Book 2, Ch 1 https://www.comp.nus.edu.sg/~seer/book/2e/Ch01.%20Cloud%20Computing.pdf
2	History and Evolution of Cloud Computing,	Book 1, Ch 1 https://www.geeksforgeeks.org/history-of-cloud-computing/
3	Grid Computing vs Cloud Computing, Cloud components	Reference Book 1, Ch 5 https://data-flair.training/blogs/grid-computing-vs-cloud-computing/#google_vignette
4	Essential characteristics- On-demand self-service, Comparing cloud providers,	https://www.synopsys.com/blogs/chip-design/essential-cloud-computing-characteristics.html https://www.javatpoint.com/cloud-service-provider-companies
5	Pros and cons of cloud computing, Cloud applications	https://morefield.com/blog/pros-and-cons-of-cloud-computing/
6	Cloud challenges.	Book 1, Ch 8 https://www.knowledgehut.com/blog/cloud-computing/cloud-computing-challenges
Unit-II Cloud Computing Architecture		
7	Layers in cloud architecture	Reference Book 1, Ch 1 https://onlinecourses.nptel.ac.in/noc23_cs89/unit?unit=18&lesson=22
8	Cloud Delivery models	Book 2, Ch 9 https://aws.amazon.com/architecture/ https://www.redhat.com/en/topics/cloud-computing/what-is-cloud-architecture https://www.youtube.com/watch?v=WzSM8sTQ6Io
9	The SPI Framework	Book 2, Ch 9 https://azure.microsoft.com/en-us/overview/what-are-iaas-paas-saas/ https://www.ibm.com/cloud/learn/iaas-paas-saas https://www.youtube.com/watch?v=7a9nOwFpYxI https://www.techopedia.com/definition/29454/spi-service-platform-infrastructure https://www.cloudopedia.com/spi-model/
10	Cloud Software as a Service (SaaS), Cloud Platform as a Service (PaaS), Cloud Infrastructure as a Service(IaaS)	Book 2, Ch 10 Reference Book 2, Ch 05 https://www.ibm.com/cloud/learn/iaas-paas-saas



		https://www.youtube.com/watch?v=sIkr6dA7W9Y https://www.ibm.com/cloud/learn/iaas https://aws.amazon.com/what-is-iaas/
11	Cloud deployment models-Public clouds – Private clouds – Community clouds - Hybrid clouds.	Book 2, Ch 09 Reference Book 2, Ch 04 https://www.salesforce.com/saas/ https://www.ibm.com/cloud/learn/saas https://www.youtube.com/watch?v=ro2Lp-YmZrI https://azure.microsoft.com/en-us/overview/what-is-paas/ https://www.youtube.com/watch?v=wbVgILLwOiE https://www.ibm.com/cloud/learn/cloud-deployment-models https://azure.microsoft.com/en-us/overview/what-are-private-public-hybrid-clouds/ https://www.ibm.com/cloud/learn/public-cloud https://www.ibm.com/cloud/learn/hybrid-cloud
Unit-III Cloud Business Value		
12	Reducing Costs and Increasing Efficiency through Scalability	Book 1, Ch 5 https://www.ibm.com/cloud/learn/cloud-scalability https://www.forbes.com/sites/forbestechcouncil/2021/06/30/three-ways-to-reduce-costs-in-cloud-computing/ https://www.youtube.com/watch?v=7Wb8b2oXItc https://www.cio.com/article/243915/cloud-computing/scalability-and-efficiency-in-cloud.html https://www.techrepublic.com/article/how-cloud-computing-drives-efficiency-and-reduces-costs/
13	Reducing IT Administrative Overhead	Book 1, Ch 5 https://www.techtarget.com/searchcloudcomputing/feature/How-cloud-computing-reduces-IT-administrative-costs https://www.networkworld.com/article/3300559/reduce-it-overhead-with-cloud-computing.html https://www.youtube.com/watch?v=VDCwU8ayzdY
14	Increasing Organizational Agility	Book 1, Ch 5 https://www.mckinsey.com/business-functions/organization/our-insights/agility-it-rhythms-that-speed-up-time-to-market https://www.gartner.com/smarterwithgartner/why-cloud-computing-will-make-you-a-more-agile-business https://www.youtube.com/watch?v=Ht1F7n5ivw
15	Examining the Business Impact	Book 1, Ch 5 https://www.forbes.com/sites/bernardmarr/2020/07/06/the-top-5-benefits-of-cloud-computing-for-your-



		business/ https://www.ibm.com/cloud/blog/the-pros-and-cons-of-cloud-computing https://www.youtube.com/watch?v=3auh3sOeFY
16	Evaluating Cloud Computing Costs and Choosing the Appropriate Cloud Model.	Book 1, Ch 5 https://azure.microsoft.com/en-us/pricing/cloud-cost-management/ https://www.techradar.com/best/how-to-manage-cloud-computing-costs https://www.youtube.com/watch?v=JYLTvISlVRC https://aws.amazon.com/types-of-cloud-computing/
Unit-IV Security in the Cloud		
17	Cloud Computing Risk Issues	Book 1, Ch 11 https://gdpr-info.eu/ https://www.hhs.gov/hipaa/for-professionals/special-topics/cloud-computing/index.html https://www.youtube.com/watch?v=8O_MwIZ2dEg
18	The CIA Triad	Book 1, Ch 11 https://csrc.nist.gov/publications/detail/sp/800-12/rev-1/final https://cloudsecurityalliance.org/ https://www.youtube.com/watch?v=yjvER5T8cE4
19	Privacy and Compliance Risks	Book 2, Ch 08 https://gdpr-info.eu/ https://www.hhs.gov/hipaa/for-professionals/special-topics/cloud-computing/index.html https://www.youtube.com/watch?v=8O_MwIZ2dEg
20	Threats to Infrastructure	Book 2, Ch 08 https://www.csoonline.com/article/2122089/top-cloud-security-threats.html https://csrc.nist.gov/publications/detail/sp/800-189/final https://www.youtube.com/watch?v=OeFZ6tGn4F0
21	Data and Cloud Access Control Issues	Book 2, Ch 08 https://www.csoonline.com/article/2130871/data-encryption-cloud-security.html https://csrc.nist.gov/publications/detail/sp/800-57-part-1/rev-5/final https://www.youtube.com/watch?v=9qsn6sIpejg
22	Cloud Service Provider Risks	https://www.aquasec.com/cloud-native-academy/cspm/top-7-risks-of-cloud-computing/ https://www.javatpoint.com/security-risks-of-cloud-computing



23	Cloud Computing Security challenges	https://biztechnologiesolutions.com/cloud-computing-security-challenges/
Unit-V Emerging trends in cloud computing		
24	Multi and Hybrid Cloud Deployment	https://www.cloudflare.com/learning/cloud/multicloud-vs-hybrid-cloud/#:~:text=Both%20%22multi-cloud%22%20and%20%22hybrid%20cloud%22%20refer%20to%20cloud,multi-cloud%20blends%20different%20clouds%20of%20the%20same%20type.
25	Edge Computing	https://azure.microsoft.com/en-in/resources/cloud-computing-dictionary/what-is-edge-computing/
26	Cloud-Native Applications	https://aws.amazon.com/what-is/cloud-native/
27	The AI and ML-Powered Cloud	https://venturebeat.com/ai/10-top-artificial-intelligence-solutions-in-2022/
28	Internet of Things	https://www.coursera.org/in/articles/internet-of-things

ADDITIONAL WEB RESOURCES

1.	NPTEL Video Lecture--Cloud Computing By Prof. Soumya Kanti Ghosh IIT Kharagpur https://onlinecourses.nptel.ac.in/noc23_cs89/preview
2.	Cloud Computing Basics (Cloud 101) https://www.coursera.org/learn/cloud-computing-basics/

GRADING AND ASSESSMENT

- **Sessional Test:** 20 marks
- **Assignment:** 10 marks
- **Attendance:** 10 marks
- **Final Examination:** 60 marks



COURSE POLICIES

- **Attendance:** Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity:** MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions:** Assignments and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**
Tuesday (1:05 PM - 2:00 PM)
Friday (1:05 PM - 2:00 PM)
- **Contact Information**
Parveensharma.mba@mietjammu.in