

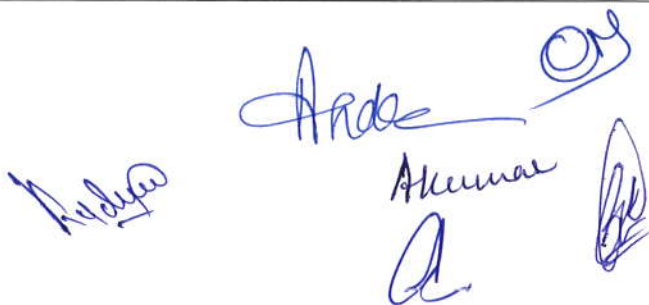
**Sri Sathya Sai College for Women, Bhopal**  
**(An Autonomous College Affiliated to Barkatullah University Bhopal)**  
**Department of Higher Education, Govt. of M.P.**  
**Under Graduate Syllabus (Annual Pattern)**  
**As recommended by Central Board of Studies and approved by the Governor of M. P.**  
**wef 2023-2024**  
**(Session 2023-24)**  
**(NEP-2020)**

<b>Class</b>	<b>B.C.A.</b>
<b>Year</b>	<b>III Year</b>
<b>Subject</b>	<b>Computer Application</b>
<b>Course Title</b>	<b>Cloud Computing</b>
<b>Course Type</b>	<b>Minor</b>
<b>Credit Value</b>	<b>6</b>
<b>Max. Mark</b>	<b>30+70 (Minimum Marks 35)</b>
<b>Course Outcome:</b> On successful completion of this course , the students will be able to:	
<ol style="list-style-type: none"> <li>1. Learn fundamentals of cloud computing</li> <li>2. Understand cloud architecture, types and services</li> <li>3. Apply concepts of cloud computing in real applications</li> <li>4. Gain deep insight of security in cloud computing</li> <li>5. Have knowledge of market Based management of Clouds</li> </ol>	

**Particular**

<b>Unit-I</b>	Cloud Computing Fundamental: Cloud Computing definition, private, public and hybrid cloud. Cloud types: IaaS, PaaS, SaaS. Benefits and challenges of cloud computing, public vs private clouds
<b>Unit-II</b>	Basics of Service Management in Cloud Computing, Data Management in Cloud Computing. Cloud Computing Architecture: Cloud Reference Model, Layer and Types of Clouds, Architectural design of Compute and Storage Clouds
<b>Unit-III</b>	Overview of Cloud management & Virtualization: Fundamental Concepts of compute, storage, networking, desktop and application virtualization, role of virtualization in enabling the cloud Virtualization benefits, server virtualization, Block and file level storage virtualization
<b>Unit-IV</b>	Cloud Security: Cloud Information security fundamentals, Cloud security services, Design principles, Secure Cloud Software Requirements, Policy Implementation, Cloud Computing Security Challenges, Virtualization security Management Cloud Computing Security Architecture
<b>Unit-V</b>	Market Based Management of Clouds, Federated Clouds/Inter Cloud: Characterization & Definition, Cloud Federation Stack, Third Party Cloud Services, Case study: Google App Engine, Microsoft Azure, Hadoop Amazon, Aneka

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### Suggestion Books

1. A.Srinivasan, J. Suresh, Cloud Computing – A Practical approach for learning and implementation, Pearson India, [ISBN-978131776513]
2. GautamShroff, Enterprise Cloud Computing Technology Architecture Applications [ISBN: 978-0521137355]
3. Kumar Saurabh “Cloud Computing – insights in to New-Era Infrastructure”. Wiley India, 2011
4. Dimitris N. Chorafas, Cloud Computing Strategies [ISBN: 1439834539]
5. Buyya, Selvi, Mastering Cloud Computing, TMH Pub
6. Krutz, Vnes, Cloud Security, Wiley Pub

### Suggestive digital platforms/ web links

1. [https://onlinecourses.nptel.ac.in/noc22\\_cs20/preview](https://onlinecourses.nptel.ac.in/noc22_cs20/preview)
2. <https://nptel.ac.in/courses/106105223>
3. <https://nptel.ac.in/courses/106104182>
4. [https://www.tutorialspoint.com/cloud\\_computing/index.htm](https://www.tutorialspoint.com/cloud_computing/index.htm)
5. <https://www.classcentral.com/course/swayam-cloud-computing-10027>

### Suggested equivalent online courses

1. [https://www.mygreatlearning.com/cloud\\_iot/certification](https://www.mygreatlearning.com/cloud_iot/certification)
2. <https://www.intellipaat.com/cloud-computing.certification>
3. <https://www.edureka.co/>
4. <https://www.coursera.org/browse/informaition-technology/cloud-computing>

### Scheme of Marks:

Maximum Marks: 100		
<b>Continuous Comprehensive Evaluation(CCE): 30 marks, Term End Exam: Theory 70 marks</b>		
<b>Internal Assessment :</b> Continuous Comprehensive Evaluation (CCE):	Class Test Assignments/ Presentation	<b>30</b>
<b>External Assessment:</b> University Exam Section Time:03.00 Hours	<b>Section (A)</b> Very Short questions <b>Section (B)</b> Short questions <b>Section (C)</b> Long questions	<b>70</b>
		<b>Total 100</b>

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*Arde*  
*Alumna*  
*Wishu*

