

Rajiv Gandhi Govt. College Saha (AMBALA)
(Affiliated to Kurukshetra University, Kurukshetra)
(‘B+’ Grade, NAAC Accredited)

॥ तमसो मा ज्योतिर्गमय ॥
"अंधेरे से मुझे प्रकाश की ओर ले चलो"
"From darkness, Lead me to Light"



Course File (Scheme, Syllabus and Lesson Plan)

Cloud Computing Skills (SEC)

(B23-SEC-103)

According to

Curriculum Framework for Under-Graduate
Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and
Choice Based Credit System)

DEPARTMENT OF COMPUTER SCIENCE &
APPLICATIONS

(For the Batches Admitted from 2023-2024)

Aug-Nov 2025
Cloud Computing Skills

Name of the Teacher: Dr. Rajeev Goel

Class: BCom/ BSc.-I

Session: Jan-May 2026

Internal Marks: 20(15(T) +5(P))

Subject: Cloud Computing Skills

Semester: 2nd Sem

External Marks: 55(35(T)+20(P))

Part A Introduction			
Subject	COMPUTER SCIENCE		
Semester	II		
Name of the Course	Cloud Computing Skills		
Course Code	B23-SEC-103		
Course Type:(CC/MCC/MDC/CM/DSEC/VOC/DSE/PC/AEC/VAC)	SEC		
Level of the course (As per Annexure-I)	NA		
Pre-requisite for the course (if any)	NA		
Course Objectives	<p>The course will aim to:</p> <ol style="list-style-type: none"> 1. Introduce students to the fundamental concepts and terminology of Cloud Computing. 2. Provide an understanding of various free and commercial cloud platforms and their applications. 3. Explain different cloud service models such as Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). 4. Examine the impact of Cloud Computing on the software industry, including changes in development, deployment, and delivery of software. 		
Course Learning Outcomes(CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Get acquainted with the term Cloud computing. 2. Understand various types of free and commercial clouds. 3. Understands various types of cloud services like SaaS. PaaS and IaaS. 4. Know how the Cloud Computing is changing soft-ware industry. 		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks: 75(50(T)+25(P))		Time: 3Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks: 20(15(T)+5(P))			
End Term Exam Marks: 55(35(T)+20(P))			

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Part B-Contents of the Course

Instructions for Paper-Setter

Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three- hour duration.

Unit	Topics	Contact Hours
I	Basic Concepts of Cloud Computing, Computer Network Basics. Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity. Cloud Service Providers in use and their Significance.	6
II	Cloud Infrastructure, Cloud Pros and Cons., Cloud Delivery Models, Cloud Deployment Models.	6
III	Cloud Storage Management, Concept of Virtualization and Load Balancing, Overview on Virtualization used for Enterprise Solutions. Key Challenges in managing Information. Identifying the problems of scale and management in big data.	6
IV	Building Cloud Networks Designing and Implementing a Data Center-Based Cloud Installing Open Source Cloud service. Amazon Web Services (AWS). Google Cloud Platform.	6
V*	Practicum: <ul style="list-style-type: none"> • Creating & using Amazon(AWS) Account • Creating & using Google Account 	25

Suggested Evaluation Methods

Theory: <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: 4 • Mid-Term Exam: 7 	End Term Examination: A three hour exam for both theory and practicum.
Practicum: <ul style="list-style-type: none"> • ClassParticipation:2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 • Mid-Term Exam: NA 	

Part C Learning Resources

Recommended Books /e-resources/LMS:

- Cloud Computing: Concepts, Technology & Architecture By Thomas Erl, Ricardo
- Cloud computing a practical approach Anthony T.Velte, Toby J.Velte Robert Elsenpeter, TATA McGraw-Hill, New Delhi– 2010
- Cloud Computing: Web-Based Applications That Change the Way You Work and Collab-orate Online -Michael Miller-Que2008
- Moving to Cloud by Dinkar Sitaram, Geetha Manjunath, Publication: Syngress Elsevier Inc, 2014(2ndEdition)
- Cloud Computing Second Edition by Dr Kumar Saurabh, Publication Willy INDIA (2013)
- Cloud Computing Bible by Barrie Sosinsky, Publisher Willy INDAI (2014)
- Cloud computing for Dummies-Judith Hurwitz, Robin Bloor, Marcia Kaufman, Fern Halper, Wiley Publishing, Inc, 2010
- Cloud Computing(Principles and Paradigms),Edited by Rajkumar Buyya, James Broberg, Andrzej Goscinski, John Wiley & Sons, Inc. 2011

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Lesson Plan
Cloud Computing

Month	Week	Topic	Remarks
Jan 2026	1	Basic Concepts of Cloud Computing, Computer Network Basics.	
	2	Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity.	
	3	Cloud Service Providers in use and their Significance.	
	4	Cloud Service Providers in use and their Significance contd...	Class Test
Feb 2026	1	Cloud Infrastructure	
	2	Cloud Pros and Cons	
	3	Cloud Delivery Models	Class Test
	4	Cloud Deployment Models	Assignment-I
March 2026	1	Holi Vacations	
	2	Cloud Storage Management, Concept of Virtualization and Load Balancing	
	3	Overview on Virtualization used for Enterprise Solutions, Key Challenges in managing Information	
	4	Identifying the problems of scale and management in big data	
April 2026	1	Building Cloud Networks Designing	Mid-Term Exams
	2	Implementing a Data Center-Based Cloud Installing	
	3	Amazon Web Services (AWS)	Class Test
	4	Google Cloud Platform	Assignment-II
University Exams			

Assignment-I

- Q1. What is cloud computing? Explain the basic concepts of cloud computing and state the necessity of cloud computing.
- Q2. What is a computer network? Explain the basic concepts of computer networks and the concept of distributed systems.
- Q3. What are cloud service providers? Name any four cloud service providers and explain their significance.
- Q4. What is cloud infrastructure? Explain the pros and cons of cloud computing and describe the cloud delivery models.

Assignment-II

- Q1. What is cloud storage management? Explain the concept of virtualization and its role in enterprise solutions.
- Q2. What is load balancing? Explain its importance in cloud computing and distributed systems.
- Q3. What are the key challenges in managing information? Explain the problems of scale and management in big data.
- Q4. What is a cloud data center? Explain the steps involved in building cloud networks and write a short note on Amazon Web Services (AWS) and Google Cloud Platform.