Yogoda Satsanga Mahavidyalaya
JAGANNATHPUR, DHURWA, RANCHI – 834004
Email address: ysmranchi4@gmail.com
(NAAC Accredited, Grade: B++, CGPA: 2.89)

COURSE PLAN

NAME OF THE DEPARTMENT:	**BCA/IT**
NAME OF THE FACULTY:	**Prof. PARTHA SARATHI CHATTARAJ AND Prof. ABHISHEK VISWAKARMA**
ACADEMIC SESSION:	**2023-24**
YEAR:	**2024**
PROGRAMME:	**BCA/IT**
SEMESTER:	**V AND VI**
COURSE TYPE:	**DSE**
COURSE NAME:	**CLOUD COMPUTING**
COURSE CODE:	**DSE-2**
TOTAL CREDIT:	**6**

PROGRAMME OUTCOMES (PO):

PO1: Scientific & Computational Knowledge: - Apply the information on scientific & computational ideas, software engineering and innovation basics.

PO2: Problem Analysis, Design & Implementation: - Identify, formulate and analyze real world problem. Design solution for Software, Hardware & Networking problems and implementation using Software & Network tools.

PO3: Modern tool usage: - Ability to select modern computing tools, skills and techniques necessary for innovative software solutions.

PO4: Project Management: -Comprehend Software Engineering and Technology standards and apply these to prepare own project and system as a part and pioneer in a group.

PO5: Career Development & Entrepreneurship: Classify opportunities, private enterprise dream and use of original thoughts to build worth and means for the betterment of the human being and the world.

PO6: C**ommunication:** Communicate effectively on computational & information Technology activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO7: Ethics: Ability to apply and commit professional Ethics, cyber regulations & control on software piracy in a global economic environment.

PO8: Preparing students for future aspects: Building and improving their creativity, social awareness, and general knowledge.

PO9: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological changes.

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO1: An ability to apply technical comprehension in varied areas of Computer Applications and experience a conducive environment in cultivating skills for thriving career and higher studies.

PSO2: Understand the concept of Programing logic, Web designing logic, Signal processing, Image processing, Mobile Applications, Multimedia Media.

PSO3: Develop competencies in various disciplines of technologies such as Server-side Web applications, computer networking, software engineering, database concepts and programming

COURSE OUTCOMES (COs):

CO1: Learn the basic of Grid Computing, Cluster Computing, Distributed Computing, Utility Computing, Cloud Computing,

CO2: Understand of Cloud Computing, History of Cloud Computing, Cloud service providers, Benefits and limitations of Cloud Computing,

CO3: To compare apply with traditional computing architecture (client/server), Services provided at various levels, Service Models- Infrastructure as a Service(IaaS), Platform as a Service(PaaS), Software as a Service(SaaS), How Cloud Computing Works, Deployment Models- Public cloud, Private cloud, Hybrid cloud, Community cloud, Case study of NIST architecture.

CO4: Analysis Case study of Service model using Google App Engine, Microsoft Azure, Amazon EC2, Eucalyptus.

CO5: Managing and understanding to Service Level Agreements (SLAs), Billing & Accounting, Comparing Scaling Hardware: Traditional vs. Cloud, Economics of scaling.

CO6: Creating and evaluating Infrastructure Security- Network level security, Host level security, Application-level security, Data security and Storage- Data privacy and security Issues, Jurisdictional issues raised by Data location, Authentication in cloud computing.

COURSE TEACHING AND LEARNING ACTIVITIES

A. PEDAGOGY

i.	**Whiteboard**	√
ii.	**Flipped Class**	√
iii.	**PPT**	√

B. COURSE COMPLETION PLAN

UNIT	NO. OF LECTURES		TEST	QUIZ	ASSIGNMENT
	THEORY	PRACTICAL/TUTORIAL			
1	6	2	√		√
2	6	1	√		√
3	15	5	√		√
4	8	5	√		√
5	2	5	√		√
6	2	3	√		√

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A. COURSE DELIVERY PLAN:

UNIT	TOPIC/SUBTOPIC	LECTURE REQUIRED (Theory & Practical)	CO ADDRESSED	ASSIGNMENT/ TEST /QUIZ
1	Recent trends in Computing : Grid Computing, Cluster Computing, Distributed Computing, Utility Computing, Cloud Computing,	8	CO1	√
2	Introduction to Cloud Computing, History of Cloud Computing, Cloud service providers, Benefitsand limitations of Cloud Computing,	7	CO2	√
3	Comparison with traditional computing architecture (client/server), Services provided at various levels, Service Models- Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service(SaaS), How Cloud Computing Works, Deployment Models- Public cloud, Private cloud, Hybrid cloud, Community cloud, Case study of NIST architecture.	20	CO3	√
4	Case study of Service model using Google App Engine, Microsoft Azure, Amazon EC2,Eucalyptus.	13	CO4	√
5	Service Level Agreements (SLAs), Billing & Accounting, Comparing Scaling Hardware: Traditional vs. Cloud, Economics of scaling.	7	CO5	√
6	Infrastructure Security- Network level security, Host level security, Application level security, Data security and Storage- Data privacy and security Issues, Jurisdictional issues raised by Data location, Authentication in cloud computing.	5	CO6	√

A. COURSE OUTCOME ASSESSMENT PLAN

a. DIRECT ASSESSMENT

(Please tick the appropriate column)

COURSE OUTCOME	ASSESSMENT				REMARKS
	QUIZ	TEST	MID SEMESTER	END SEMESTER	
CO1		√	√	√	
CO2		√	√	√	
CO3		√	√	√	
CO4		√	√	√	
CO5		√	√	√	
CO6		√	√	√	
CO7		√	√	√	

b. INDIRECT ASSESSMENT (STUDENT SURVEY)

Rate the following aspects of course outcomes. Use the scale 1-3

S. No	Course Outcome	1	2	3
1.	CO1			√
2.	CO2			√
3.	CO3		√	
4.	CO4	√		
5.	CO5		√	
6.	CO6	√		

1. Average
2. Good
3. Very Good

B. SUGGESTED READINGS

a. TEXT BOOKS

Gautam Shroff, Enterprise Cloud Computing Technology Architecture Applications

b. REFERENCE BOOKS

Cloud Computing: Concepts, Technology & Architecture by Zaigham Mahmood, Ricardo Puttini, Thomas ErlOp.....

Cloud Computing from Beginning to End by Ray J Rafaels Opens.

VIDEO RESOURCE

https://en.wikipedia.org/wiki/Cloud_computing
https://youtu.be/M988_fsOSWo

c. WEB RESOURCES

https://www.commvault.com/hybrid-cloud-solutions
https://aws.amazon.com/free/?gclid

d. E-RESOURCES

Tutorial Point, Java Point etc.