Govt. V.Y.T. PG. Autonomous College Durg (C.G.)

SCHEME OF EXAMINATION
&
SYLLABUS

Of
Four Year Undergraduate Program

For

B.Sc. V and VI Semester
in
(Information Technology)
For DSC and DSE

Session – 2025-26

(Approved by Board of studies)

GOVT. V.Y.T.PG AUTONOMOUS COLLEGE DURG
FOUR YEAR UNDERGRADUATE PROGRAM
COURSE CURRICULUM 2025 – 26
B.Sc.(IT)-V Semester

Course Code	Course Type	Course Name	Theory Marks	Internal Marks	Practical Marks	Total Marks		Teaching Load per Week			Credits
								L	T	P	
			Max. (A)	Max. (C)	Max. (E)	Max.	Min.				
BIT 501(L)	DSC	Programming in JAVA	80	20		100	40	3	1		3
BIT 502(P)		Lab1: Programming in JAVA			50	50	20			1x 2	1
BIT 503 (L)	DSE1	Digital Electronics and Microprocessor	80	20		100	40	3	1		4
BIT 504(L)	DSE2	Cloud Computing	80	20		100	40	3	1		4
	TOTAL					350	140				12

GOVT. V.Y.T.PG AUTONOMOUS COLLEGE DURG
FOUR YEAR UNDERGRADUATE PROGRAM

COURSE CURRICULUM 2024-25

V SEMESTER : Theory Course
DSE2

PART A: INTRODUCTION				
Program: B.Sc. (UG)		Class: B.Sc. (IT) Semester - V		Session:2024-2025
1	Course Code	BIT-504		
2	Course Title	DSE2- Cloud Computing		
3	Course Type	Theory		
4	Course Learning Outcome (CLO)	This Course will enable the students to: • Describe cloud computing concepts. • Identify various cloud services. • Evaluate various cloud delivery models. • Assess cloud characteristics and service attributes, for compliance with enterprise objectives. • Contrast the risks and benefits of implementing cloud computing		
5	Credit Value	4 Credits	1 credit =15 Hours – Learning and Observation	
6	Total Marks	Maximum Marks :100		Minimum Passing Marks:40

PART B: CONTENT OF THE COURSE Total no. of Teaching/ Learning Periods = 60 Periods (60 Hours)		
Unit	Topics (COURSE CONTENTS)	No. of Periods
I	**Fundamental Cloud Computing:** Concepts, Terminology, Technologies, Benefits, Challenges, SLAs and business cost metrics associated with cloud computing, SaaS, IaaS, PaaS delivery models, Common cloud deployment models and cloud characteristics, Various applications of cloud computing.	12
II	**Cloud Architecture:** The technology architecture of cloud platforms and cloud-based solutions and services and their utilization via a set of cloud computing design patterns, Hybrid cloud deployment models, Compound design patterns and solution architectures that span cloud and on-premise environments.	12
III	**Cloud Security & Governance:** The cloud security mechanisms, cloud security architecture, A set of security design patterns, The definition of cloud governance precepts, Roles, Practices and processes, Common governance challenges and pitfalls specific to cloud computing.	12
IV	**Cloud Storage:** The cloud storage devices, Structures and technologies, cloud storage mechanisms, Persistent storage, Redundant storage, Cloud-attached storage, Cloud-remote storage, Cloud storage gateways, Cloud storage brokers, Direct Attached Storage (DAS), Network Attached Storage (NAS), Storage Area Network (SAN), Various cloud storage-related design patterns.	12

V	**Cloud Virtualization & Microservices:** Core topic areas pertaining to the fundamental virtualization mechanisms and types used within contemporary cloud computing platforms are explored along with various key performance indicators and related metrics, Microservices of Cloud Computing.	12

PART C - LEARNING RESOURCES

Text Books, Reference Books, Other Resources

Text Books :

1. Cloud Computing: Concepts, Technology & Architecture, Erl, Pearson Education India; 1 edition, 2014
2. Cloud Computing: Fundamentals By Timothy Chou's.

Reference Books:

1. The Basics of Cloud Computing: Understanding the Fundamentals of Cloud Computing in Theory and Practice 1st Edition byDerrick Rountree (Author), Ileana Castrillo (Author)

2. —Cloud Computing, A Practical Approach‖ Toby Velte, Anthony Velte, Robert Elsenpeter, McGraw-Hill Osborne Media; 1 edition [ISBN: 0071626948], 2009.

Online Resources: (e- Resources/ e- Books/ e- Learning Portals):

1. https://www.javatpoint.com/cloud-computing
2. https://www.geeksforgeeks.org/cloud-computing-tutorial/
3. https://www.tutorialspoint.com/cloud_computing/index.htm
4. https://www.w3schools.com/aws/aws_cloudessentials_cloudcomputing.php
5. https://www.simplilearn.com/tutorials/cloud-computing-tutorial
6. https://intellipaat.com/blog/cloud-computing-tutorial/

PART D: ASSESSMENT AND EVALUATION

Suggested Continuous Evaluation Methods:

Maximum Marks:	**100 Marks**
Continuous Comprehensive Evaluation (CCE):	**20 Marks**
Semester End Exam (SEE):	**80 Marks**

Internal Assessment: Continuous Comprehensive Evaluation (CCE)	Internal Test of 20 Marks each and Assignment of 20 Marks
Semester End Exam (SEE)	**Pattern -FOUR Questions (A, B, C, D) from each Unit** Question - A & B: (Compulsory) Very short answer type (02 each) 04 x 5 = 20 Marks Question - C: Short answer type question 05 x 5 = 25 Marks Question -D: Long answer type question 07 x 5 = 35 Marks **Total = 80 Marks**

Name & Signature of Members of Board of Studies

V.C. Nominee	Departmental members
Subject Expert	1. HOD- Dr. Sanat Kumar Sahu.....
Subject Expert.....	2. Mr. Dileep Kumar Sahu.....
Alumni(member).....	3. Dr. Latika Tamrakar .....
Prof. from other Dept. of Sc. Faculty	
Specialist from Industry	

GOVT. V.Y.T.PG AUTONOMOUS COLLEGE DURG
FOUR YEAR UNDERGRADUATE PROGRAM
COURSE CURRICULUM 2025 – 26
B.Sc.(IT)-VI Semester

Course Code	Course Type	Course Name	Theory Marks	Internal Marks	Practical Marks	Total Marks		Teaching Load per Week			Credits
								L	T	P	
			Max.	Max.	Max.	Max.	Min.				
BIT 601(L)	DSC	PROGRAMMING IN .NET	80	20		100	40	3	1		3
BIT 602(P)		Lab1: PROGRAMMING IN .NET			50	50	20			1x2	1
BIT 603 (L)	DSE1	DATA COMMUNICATION AND NETWORKING	80	20		100	40	3	1		4
BIT 604	DSE2	E-Commerce and its Application	80	20		100	40	3	1		
	TOTAL					350	140				12

GOVT. V.Y.T.PG AUTONOMOUS COLLEGE DURG
FOUR YEAR UNDERGRADUATE PROGRAM

COURSE CURRICULUM 2024-25

VI SEMESTER : Theory Course

DSE2

PART A: INTRODUCTION				
Program: BSC (UG)		Class: BSc(IT)	Semester - VI	Session:2024-2025
1	Course Code	BIT-604		
2	Course Title	E-Commerce and its Application		
3	Course Type	DSE2		
4	Course Learning Outcome (CLO)	This Course will enable the students to: • Analyze the impact of E-commerce on business models and • strategy. • Describe the major types of E-commerce. • Explain the process that should be followed in building an • E-commerce presence. • Identify the key securit threats in the E-commerce environment.		
5	Credit Value	4 Credits	1 credit =15 Hours – Learning and Observation	
6	Total Marks	Maximum Marks :100		Minimum Passing Marks:40

PART B: CONTENT OF THE COURSE

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Total no. of Teaching/ Learning Periods = 60 Periods (60 Hours)

Unit	Topics (COURSE CONTENTS)	No. of Periods
I	History of E-commerce and Indian Business Context: E-Commerce – Emergence of the Internet – Emergence of the WWW – Advantages of E-Commerce – Transition to E-Commerce in India – The Internet and India – E-transition Challenges for Indian Corporate. Business Models for Ecommerce: Business Model – E-business Models Based on the Relationship of Transaction Parties - E-business Models Based on the Relationship of Transaction Types.	12
II	Enabling Technologies of the World Wide Web: World Wide Web – Internet Client-Server Applications –Networks and Internets – Software Agents – Internet Standards and Specifications – ISP. e-Marketing :Traditional Marketing – Identifying Web Presence Goals – Online Marketing – E-advertising – E-branding.	12
III	E-Security: Information system Security – Security on the Internet – E-business Risk Management Issues – Information Security Environment in India. Legal and Ethical Issues : Cybers talking – Privacy is at Risk in the Internet Age – Phishing – Application Fraud – Skimming – Copyright – Internet Gambling – Threats to Children.	12
IV	e-Payment Systems: Main Concerns in Internet Banking – Digital Payment Requirements – Digital Token-based e-payment Systems – Classification of New Payment Systems – Properties of Electronic Cash – Cheque Payment Systems on the Internet – Risk and e-Payment Systems – Designing e-payment Systems – Digital Signature – Online Financial Services in India - Online Stock Trading.	12

V	Information systems for Mobile Commerce: What is Mobile Commerce? – Wireless Applications –Cellular Network – Wireless Spectrum – Technologies for Mobile Commerce – Wireless Technologies –Different Generations in Wireless Communication – Security Issues Pertaining to Cellular Technology. Portals for E-Business: Portals – Human Resource Management – Various HRIS Modules.	12

PART C - LEARNING RESOURCES

Text Books, Reference Books, Other Resources

TEXT BOOK:

1. P.T.Joseph, S.J., *"E-Commerce - An Indian Perspective"*, PHI 2012, 4th Edition.

REFERENCE BOOKS:

1. David Whiteley , *"E-Commerce Strategy, Technologies and Applications"*, Tata McGraw Hill, 2001.
2. Ravi Kalakota, Andrew B Whinston, *"Frontiers of Electronic Commerce"*, Pearson 2006, 12th Impression.

WEB REFERENCES:

- https://www.docsity.com/en/e-commerce-notes-pdf-lecture-notes-universitylevel/2484734/
- https://magnetoitsolutions.com/blog/advantages-and-disadvantages-of-ecommerce
- https://www.researchgate.net/publication/320547139ECommerce_Merits_and_Demerits_A_Review_Paper.

PART D: ASSESSMENT AND EVALUATION

Suggested Continuous Evaluation Methods:	
Maximum Marks:	**100 Marks**
Continuous Comprehensive Evaluation (CCE):	**20 Marks**
Semester End Exam (SEE):	**80 Marks**
Internal Assessment: Continuous Comprehensive Evaluation (CCE)	Internal Test of 20 Marks each and Assignment of 20 Marks
Semester End Exam (SEE)	**Pattern -FOUR Questions (A, B, C, D) from each Unit** Question - A & B: (Compulsory) Very short answer type (02 each) 04 x 5 = 20 Marks Question - C: Short answer type question 05 x 5 = 25 Marks Question -D: Long answer type question 07 x 5 = 35 Marks **Total =** **80 Marks**

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Subject Expert.....	**2. Mr. Dileep Kumar Sahu**.....
Alumni(member).....	**3. Dr. Latika Tamrakar** .....
Prof. from other Dept. of Sc. Faculty	
Specialist from Industry	