

K.S.RANGASAMY COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS)

TIRUCHENGODE – 637 215.

DEPARTMENT OF COMPUTER SCIENCE

ELECTIVE COURSES:

SEMESTER - V

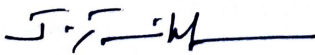
1. E-COMMERCE
2. COMPUTER GRAPHICS

SEMESTER - VI

1. CLOUD COMPUTING
2. MOBILE COMPUTING

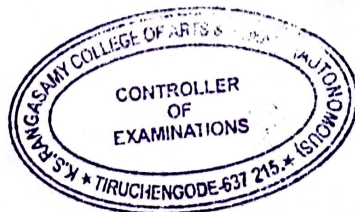
Enclosures:

- i. Copy of Scheme of Examination
- ii. Syllabus copy of the elective course
- iii. Mapping of the courses.



HoD – B.Sc [CS]

**HEAD,
Department of Computer Science,
K.S. Rangasamy College of Arts and
Science (Autonomous),
TIRUCHENGODE-637 215.**



CoE

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NON MAJOR ELECTIVE COURSE

The department offers the following two subjects as Non Major Elective Course for other than the computer science students for third and fourth semesters.

S.No.	Semester	Subject Code	Subject
1	III	18UCSNM301	Internet Technology
2	IV	18UCSNM401	Principles of Web Design

ELECTIVE I

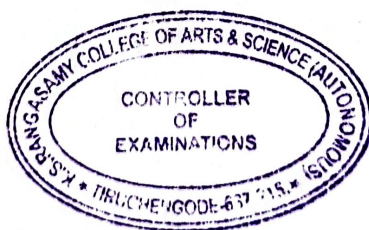
(Student shall select any one of the following subject as Elective in fifth semester)

S.No	Subject Code	Subject
1.	18UCSEL501	E-Commerce
2.	18UCSEL502	Computer Graphics

ELECTIVE II

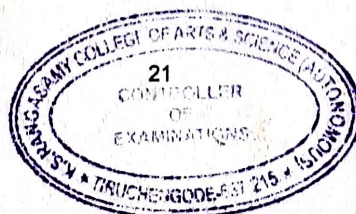
(Student shall select any one of the following subject as Elective in sixth semester)

S.No	Subject Code	Subject
1.	18UCSEL601	Cloud Computing
2.	18UCSEL602	Mobile Computing



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18UCSEL501	ELECTIVE I: E-COMMERCE	SEMESTER - V	
<p>COURSE OBJECTIVE:</p> <p>The course aims</p> <ul style="list-style-type: none"> To learn the basics of E-Commerce. To know the concept of E-Marketing, E-Payment, Mobile Commerce and Legal Issues. 			
Credit Points: 3		Total Hours: 50	
UNIT	CONTENTS	Hrs	CO
I	<p>History of E-commerce and Indian Business Context: Early Business Information Interchange Efforts-Emergence of the Internet - Emergence of World Wide Web - The Milestones - Advantages of E-commerce - Disadvantages of E-commerce -Transition to E-commerce in India - The Internet and India - E-Transition Challenges for Indian Corporates-The Information Technology Act,2000. Business Models for E-Commerce: E-business model based on the relationship of Transaction parties</p>	10	CO1
II	<p>Enabling Technologies of the World Wide Web: Internet Client- Server Applications - Software Agents - Internet Standards and Specifications - Internet Service Provider (ISP).E-Marketing: Traditional Marketing - Identifying Web Presence Goals - The Browsing Behaviour Model - Online Marketing - E-advertising</p>	10	CO2



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<p>III</p>	<p>E-Security: Information System Security - Security on the Internet - E-business Risk Management Issues-Information security environment in India. E-Payment Systems: Digital Token-based E-Payment Systems - Classification of New Payment Systems- Properties of Electronic Cash (E-cash) -Risk and E-payment System.</p>	<p>10</p>	<p>CO3</p>
<p>IV</p>	<p>E-Strategy : Information and Strategy - The Virtual value Chain - Seven Dimensions of E-commerce Strategy - Value Chain and E-strategy - Planning the E-commerce project - E-commerce Strategy and Knowledge Management - E-Business Strategy and Data Warehousing and Data Mining. Information Systems for Mobile Commerce: What is Mobile Commerce - Wireless Applications - Cellular Network - Wireless Spectrum - Technologies for Mobile Commerce - WAP Programming Model - Wireless Technologies.</p>	<p>10</p>	<p>CO4</p>
<p>V</p>	<p>Customer - Effective Web Design: Requirements of Intelligent Websites- Setting Websites Goals and Objectives - Strategies for Website Development. Legal and Ethical Issues: Ethical Issues in the digital Economy - Computers as Targets for Crime - Computers as Storage Devices - Computers as Communication Tools - Cyber stalking -</p>	<p>10</p>	<p>CO5</p>



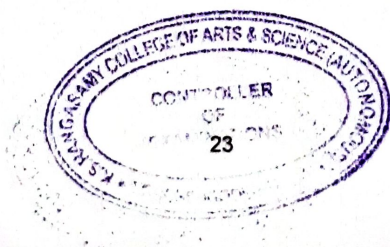
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	Privacy is at Risk in the Internet Age - Phishing - Copyright - Internet Gambling - Threats to Children- The Special Nature of Computer Ethics.		
TEXT BOOK:			
1.	Joseph, P.T. S.J. 2009. E-Commerce An Indian Perspective. [Third Edition]. Prentice-Hall of India, New Delhi.		
REFERENCE BOOKS:			
1.	Gray Schneider, P. 2007. Electronic Commerce [Seventh Annual Edition]. Thomson Course/technology		
2.	Ravi Kalakota and Andrew Whinston, B. 2000. Frontiers of Electronic Commerce. [Fifth Indian Reprint]. Pearson Education, New Delhi.		
3.	Ravi Kalakot and Andrew Whinston, B. 2000. Electronic Commerce -A manager's Guide. [Second Indian Reprint]. Pearson Education, New Delhi.		
WEB REFERENCES:			
1.	https://www.google.com/amp/s/searchcio.techtarget.com/definition/e-commerce%3famp=1		
2.	https://www.businesswsdaily.com/4872-what-is-e-commerce.html		

COURSE OUTCOMES (CO):

After the completion of this course, the students should be able to:

CO1	Understand the basics of E-Commerce.
CO2	Know about E-marketing and its applications.
CO3	Understand the concepts of E-security and gain knowledge about the payment systems.
CO4	Understand the E-strategy and mobile commerce.
CO5	Acquire the knowledge of Legal and Ethical issues.



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MAPPING:

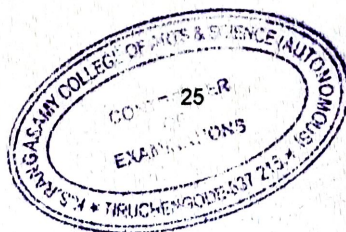
CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	M	M	H
CO2	H	M	M	H	H
CO3	H	H	H	H	H
CO4	H	H	M	M	H
CO5	H	H	H	H	H

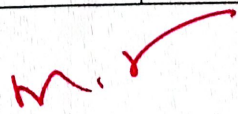
H-High; M-Medium; L-Low

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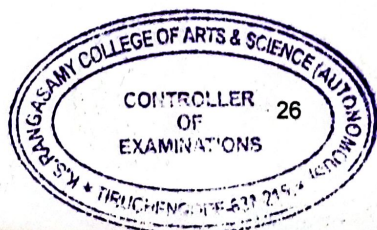


18UCSEL502	ELECTIVE I: COMPUTER GRAPHICS	SEMESTER - V	
<p>COURSE OBJECTIVES:</p> <p>The Course aims</p> <ul style="list-style-type: none"> To know the knowledge about the graphic technique and algorithm. To acquire the knowledge of multimedia system design, and various I/O technologies. 			
Credit Points: 3		Total Hours: 50	
UNIT	CONTENTS	Hrs	CO
I	<p>A Survey of Computer Graphics: Computer-Aided Design- Presentation Graphics- Computer Art- Entertainment-Education and Training - Visualization-Image Processing -Graphical User Interfaces. Overview of Graphics Systems: Video Display Devices- Raster Scan Systems-Video Controller-Random Scan Systems- Graphics Monitors and Workstations- Input Devices and Hard Copy Devices.</p>	10	CO1
II	<p>Output Primitives: Points and Lines-Line Drawing Algorithms: DDA Algorithm- Bresenham's Line Algorithm- Circle Generating Algorithms. Two Dimensional Geometric Transformations: Basic Transformations- Matrix Representations and Homogeneous Coordinates- Composite Transformations- Other Transformations. Two Dimensional Viewing: The Viewing Pipeline- Clipping Operations- Point Clipping-Line Clipping: Cohen-Sutherland line clipping-Polygon Clipping:</p>	10	CO2




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	Sutherland-Hodgeman Polygon Clipping- Curve Clipping- Text Clipping- Exterior Clipping.		
III	Structures and Hierarchical Modeling: Structure Concepts- Editing Structures- Basic Modeling Concepts- Hierarchical Modeling with Structures. Graphical User Interfaces and Interactive Input Methods: The User Dialogue: Windows and Icons- Input of Graphical Data- Input Functions- Interactive Picture Construction Techniques- Virtual Reality Environments.	10	CO3
IV	Three-Dimensional Concepts: Three-Dimensional Display Methods- Three- Dimensional Graphics Packages. Three-Dimensional Object Representations: Polygon Surfaces-Curved Lines and Surfaces- Quadric Surfaces-Blobby Objects. Three-Dimensional Viewing: Projections- Clipping- Hardware Implementations- Three-Dimensional Viewing Functions.	10	CO4
V	Visible-Surface Detection Methods: Classification of Visible-Surface Detection Algorithms- Back-Face Detection- Depth-Buffer Method- A-Buffer Method- Scan-Line Method-Depth-Sorting Method-Area-Subdivision Method. Color Models and Color Applications: Standard Primaries and the chromaticity Diagram: XYZ Color Model-RGB Color Model-YIQ Color Model-CMY Color Model-HSV Color Model. Computer Animation: Design of Animation Sequences-General Computer-	10	CO5



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	<p>Animation Functions-Raster Animations - Computer-Animation Languages-Key-Frame Systems - Motion Specifications.Understanding Services and Applications:Using Media and Streaming: Understanding the Streaming Process - Audio Streaming - Working with VoIP Applications - Video Streaming. Using the Mobile cloud: Working with Mobile Devices: Using Smart Phones with the Cloud. Working with Mobile Web Services: Understanding Service Types.</p>		
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TEXT BOOK:

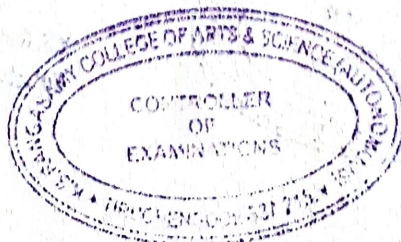
1.	<p><i>Donald Hearnand Pauline Baker.M.2008.Computer Graphics C Version.</i> [Second Edition-Sixth Impression].Pearson Education in South Asia.</p>
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REFERENCE BOOKS:

1.	<p><i>Neuman.W.M.andSproullR.F. 1997. Principles of Interactive Computer Graphics. [Second Edition]. McGraw-Hill.</i></p>
2.	<p><i>PradeepK.Bhatia. 2008. Computer Graphics. [First Edition]. I.K.International Publishing House Pvt Ltd.</i></p>
3.	<p><i>ZhigangXiangandRoyA.Plstock.1986. Computer Graphics. [Second Edition].McGraw Hill.</i></p>

WEB REFERENCES:

1.	<p>http://www.javapoint.com/computer-graphics-tutorial</p>
2.	<p>http://www.geeksforgeeks.org/computer-graphic-2/</p>



M.P.

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COURSE OUTCOMES (CO):

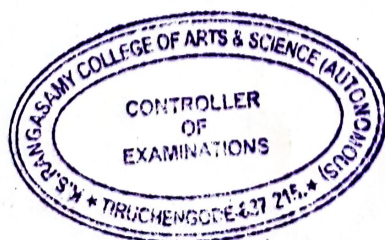
After the completion of this course, the students should be able to:

CO1	Understand the basics of computer graphics.
CO2	Acquire knowledge about two dimensional and their transformations.
CO3	Understand the concepts of virtualization and gain knowledge about the user interface between the computer graphics.
CO4	Know the concept of three dimensional viewing methods.
CO5	Gain knowledge of Video, audio streaming and mobile applications.

MAPPING:

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	M	H	H
CO2	H	M	M	H	H
CO3	H	H	M	H	H
CO4	H	H	M	H	H
CO5	H	H	M	H	H

H-High; M-Medium; L-Low



M ✓
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18UCSEL601	ELECTIVE II: CLOUD COMPUTING	SEMESTER - VI
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COURSE OBJECTIVES:

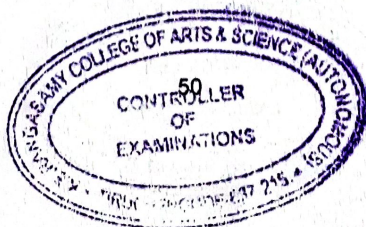
The Course aims

- To know the emerging areas of Cloud Computing.
- To acquire the knowledge of Virtualization, Cloud Security and Services.

Credit Points: 3

Total Hours: 50

UNIT	CONTENTS	Hrs	CO
I	<p>Understanding Cloud Computing: Beyond the Desktop: An Introduction to Cloud Computing: Cloud Computing: What It Is - and What It Isn't - From Collaboration to the Cloud: A Short History of Cloud Computing - The Network Is the Computer: How Cloud Computing Works - Companies in the Cloud: Cloud Computing Today - Why Cloud Computing Matters. Are You Ready for Computing in the Cloud? : The Pros and Cons of Cloud Computing - Who Benefits from Cloud Computing? - Who Shouldn't Be Using Cloud Computing? Developing Cloud Services: Why Develop Web-based Applications?- The Pros and Cons of Cloud Service Development- Types of Cloud Service Development - Discovering Cloud Services Development Services and Tools.</p>	10	CO1
II	<p>Cloud Computing for Everyone: Cloud Computing for the Family: Centralized E-Mail Communications - Collaborating on Schedules - Collaborating on Grocery List - Collaborating on To-Do List - Collaborating on Household Budgets -</p>	10	CO2



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	<p>Collaborating on contact list. Cloud Computing for the Community: Communicating across the Community - Collaborating on Group Projects and Events. Cloud Computing for the Corporation: Managing Schedules - Managing Contact List - Managing Projects - Collaborating on Reports - Collaborating on Marketing Materials - Collaborating on Expense Reports - Collaborating on Budgets - Collaborating on Financial Statements - Collaborating on Presentations. Using Cloud Services: Collaborating on Calendars, Schedules, and Task Management: Exploring Online Calendar Applications - Exploring Online Scheduling Applications - Exploring Online Planning and Task Management.</p>		
III	<p>Using Platforms: Understanding Abstraction and Virtualization: Using Virtualization Technologies - Load Balancing and Virtualization - Understanding Hypervisors - Understanding Machine Imaging - Porting Applications. Using Google Web Services: Exploring Google Applications - Exploring the Google Toolkit. Using Amazon Web Services: Understanding Amazon Web Services - Amazon Web Service Components and Services. Using Microsoft Cloud Services: Exploring Microsoft Cloud Services - Using Windows Live.</p>	10	CO3
IV	<p>Exploring Cloud Infrastructures: Managing the Cloud: Administrating the Cloud. Understanding</p>	10	CO4



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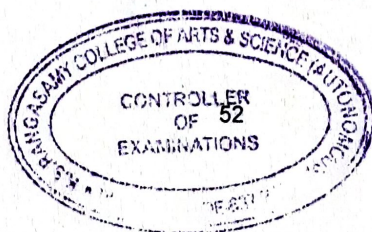
	<p>Cloud Security: Securing the Cloud - Securing Data - Establishing Identity and Presence.</p> <p>Understanding Services and Applications: Moving Applications to the Cloud: Applications in the Cloud.</p>		
V	<p>Understanding Services and Applications:Using Media and Streaming: Understanding the Streaming Process - Audio Streaming - Working with VoIP Applications - Video Streaming. Using the Mobile cloud: Working with Mobile Devices: Using Smart Phones with the Cloud. Working with Mobile Web Services: Understanding Service Types.</p>	10	CO5

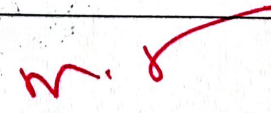
TEXT BOOKS:

1.	<p><i>Michael Miller.</i> 2009. Cloud Computing: Web - Based Applications That Change the Way You Work and Collaborate Online. [First Impression]. Pearson Education. New Delhi. (Unit I and Unit II).</p>
2.	<p><i>Barrie Sosinsky.</i> 2013. Cloud Computing Bible. [First Edition - Reprint]. Wiley India Edition. New Delhi. (Unit III to Unit V).</p>

REFERENCE BOOKS:

1.	<p><i>George Reese.</i> 2009. Cloud Application Architectures: Building Applications and Infrastructure in the Cloud. [First Edition]. Oreily's Publications. New York.</p>
2.	<p><i>Thomas Erl, Ricardo Puttini, ZaighamMahmood.</i> 2013. Cloud Computing: Concepts, Technology & Architecture. [Second Edition]. Prentice Hall. New York.</p>
3.	<p><i>Kris Jamsa.</i> 2014. Cloud Computing: SaaS, PaaS, IaaS, Virtualization, Business Models, Mobile, Security and More. [First Edition]. Jones and Bartlett Learning. New Delhi.</p>




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WEB REFERENCES:	
1.	https://searchcloudcomputing.techtarget.com
2.	https://www.webopedia.com/cloudcomputing
3.	https://www.infoworld.com/cloud

COURSE OUTCOMES (CO):

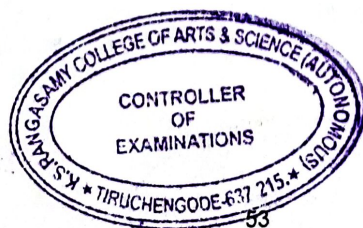
After the completion of this course, the students should be able to:

CO1	Understand the basics of cloud computing
CO2	Acquire knowledge about cloud computing works in family, community and corporation.
CO3	Understand the concepts of virtualization and gain knowledge about Google, Amazon and Microsoft cloud with its services.
CO4	Know the cloud security and its applications.
CO5	Gain knowledge of Video, audio streaming and mobile cloud.

MAPPING:

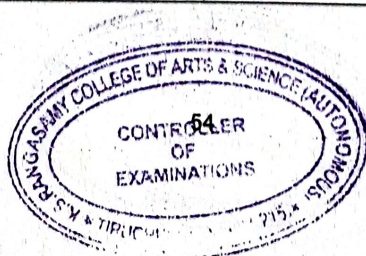
PSO CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	M	H	H
CO2	H	M	M	H	H
CO3	H	H	M	H	H
CO4	H	H	M	H	H
CO5	H	H	M	H	H

H-High; M-Medium; L-Low



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18UCSEL602	ELECTIVE II: MOBILECOMPUTING	SEMESTER-VI	
COURSE OBJECTIVES:			
The course aims			
<ul style="list-style-type: none"> To learn basic concept of Mobile Computing. To explore the knowledge of Telecommunication among the students. 			
Credit Points: 3		Total Hours: 50	
UNIT	CONTENTS	Hrs	CO
I	Introduction: Applications - A Simplified Reference Model. Wireless Transmission: Frequencies for radio transmission - Signals - Antennas - Signal Propagation - Multiplexing - Modulation - Spread Spectrum - Cellular System.	10	CO1
II	Medium Access Control: Motivation for a Specialized MAC- Hidden and exposed terminals - Near and far terminals - SDMA - FDMA - TDMA - Fixed TDM - Classical Aloha - Slotted Aloha - Carrier Sense Multiple Access - Demand assigned Multiple Access - PRMA Packet Reservation Multiple Access - Reservation TDMA - Multiple Access with Collision Avoidance - Polling - Inhibit Sense Multiple Access. CDMA - Spread Aloha multiple access. Comparison of S/T/F/CDMA.	10	CO2
III	Telecommunication Systems: GSM - Mobile Services - System Architecture - Radio Interface - Protocols - Localization and Calling - Handover - Security. UMTS and IMT 2000: UMTS releases	10	CO3



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COURSE OUTCOMES (CO):

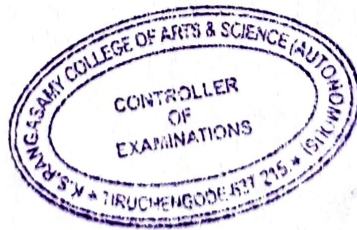
On successful completion of this course, the students will be able to:

CO1	Describe the basic Wireless Transmission.
CO2	Overview of multiplexing techniques in wireless networks.
CO3	Understand telecommunication Systems concepts.
CO4	Attain the knowledge of satellite system.
CO5	Learn the concept of mobile network layer.

MAPPING:

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	M	M
CO2	H	H	H	H	H
CO3	H	H	M	H	H
CO4	H	H	H	H	M
CO5	H	H	H	H	M

H-High; M-Medium; L-Low



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