

T. Y. B. C. A. - Semester 6
Effective From: June-2011

Paper No.: 601

Paper Title: Computer Graphics

1. Graphics Systems

- 1.1. Application Areas of Graphics Systems
 - 1.1.1. Presentation Graphics
 - 1.1.2. Entertainment
 - 1.1.3. Education & Training
 - 1.1.4. Image Processing
- 1.2. Application “Areas of Computer Graphics”
 - 1.2.1. Computer Graphics Files
 - 1.2.2. Raster Graphics and Vector Graphics
- 1.3. Video Display Devices
 - 1.3.1. Refresh CRT
 - 1.3.2. Color CRT
 - 1.3.3. LCD
- 1.4. Random Scan Display
- 1.5. Direct View Storage Tube
- 1.6. Introduction to graphic standards

2. Line generation

- 2.1. Geometry of line
- 2.2. Frame Buffer
- 2.3. Line Drawing Algorithms
 - 2.3.1. DDA Algorithm
 - 2.3.2. VECGEN
 - 2.3.3. Bresenham
- 2.4. Line Styles
 - 2.4.1. Thick line
 - 2.4.2. Line caps
 - 2.4.3. Thick line joints
- 2.5. Anti aliasing

3. Polygons

- 3.1. Polygon Inside Tests
 - 3.1.1. Even-odd method
 - 3.1.2. Winding number method
- 3.2. Polygon Area Filling Algorithms
 - 3.2.1. Flood Fill
 - 3.2.2. Scan Line
 - 3.2.3. Boundary Fill
 - 3.2.4. Filling polygon with a pattern

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4. Geometric Transformations

4.1. Basic Transformations

4.1.1. Scaling

4.1.2. Translation

4.1.3. Rotation about origin

4.1.4. Rotation about Homogeneous Coordinates

5. Introduction to advanced Graphics concepts

5.1. Computer Animations

5.2. Concept of morphing

5.3. Concept of Fractals

Reference Books :

1. Donald Hearn & M. Pauline Baker : Computer Graphics, Second Edition Prentice Hall India.
2. Harrington S : Computer Graphics - Tata McGraw Hill
3. Desai : Computer Graphics – PHI
4. Mukherjee & Jana : Computer Graphics : Algorithms & Implementations, PHI
5. Giloi W.K.: Interactive Computer Graphics – Prentice Hall India
6. New Man W. & Sproul P.F. - Principles of Interactive Computer Graphics, McGraw Hill.
7. Rogers D.F. – Procedural Elements for Computer Graphics McGraw Hill

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Paper No.: 602

Paper Title: E-Commerce & Cyber Security

1. Introduction to E – Commerce

- 1.1. What is E – Commerce?
- 1.2. E – Commerce Framework

2. E- Commerce Consumer Applications

- 2.1. E – Commerce Organization Application
- 2.2. Network for E – Commerce
- 2.3. What is Information way

3. E – Commerce and World wide Web

- 3.1. E-commerce application services
- 3.2. Consumer to Business Transaction
- 3.3. Business to Business Transaction
- 3.4. Security on the web
- 3.5. Categories of internet data and transactions

4. E-Commerce Security Issues

- 4.1. Secure Socket layer
- 4.2. Types of electronic payment systems
 - 4.2.1. E Cash
 - 4.2.2. Electronic checks
 - 4.2.3. Smart cards and electronic payment system
 - 4.2.4. Credit cards and Debit Cards payment and their authentication

5. Introduction to Cyber Crimes

- 5.1. Category of Cyber crimes
- 5.2. Technical Aspects of Cyber Crimes
 - 5.2.1. Unauthorized access & Hacking
 - 5.2.2. Trojan, virus and worm Attacks
- 5.3. E-mail & IRC related crimes
 - 5.3.1. Email spoofing and Spamming
 - 5.3.2. Email bombing
 - 5.3.2.1. Sending threatening emails
 - 5.3.2.2. Defamatory emails
 - 5.3.2.3. Email frauds
 - 5.3.2.4. IRC related
 - 5.3.2.5. Denial of Service attacks
 - 5.3.2.6. A distributed denial of service (DoS) attack

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6. Prohibited Actions on Cyber

- 6.1. Pornography
- 6.2. IPR Violations : software piracy, copyright infringement, trademarks violations, theft of computer source code, patent violations
- 6.3. Cyber Squatting
- 6.4. Cyber Terrorism: Targeted attacks on military installations, power plants, air traffic control, banks, trail traffic control, telecommunication networks are the most likely targets. Others like police, medical, fire and rescue systems etc.
- 6.5. Banking/Credit card Related crimes
- 6.6. E-commerce/ Investment Frauds
 - 6.6.1. Sales and Investment frauds
- 6.7. Sale of illegal articles
- 6.8. Defamation (Cyber smearing)
- 6.9. Cyber Stacking

Reference Books :

- 1. Kalakota and Whinstn – Frontiers of of Electronic Commerce – Addition Wesley
- 2. Efraim Turban, Jae Lee, David King, H.Michel Chung – Electronic Commerce : A Mangerial Prespective – Addition Wesley
- 3. Parag Diwan & Sunil Sharma – IT Encyclopedia.com Volume 8 : E-Commerce – Pentagon Press
- 4. Charles Trepper – E-Commerce Strategies – PHI.
- 5. Cyber Crime in India By: Dr M Dasgupta ISBN : 8171772209
- 6. Joseph – E-Commerce : An Indian Perspective, 3rd Edition - PHI
- 7. Cyber Law and Crimes By:Barkha U, Rama Mohan ISBN : 9180087276
- 8. Law Relating to Computers Internet and E-Commerce By:Nandan Kamath ISBN : 8175347786
Year Of Publication: 2009 Edition: Fourth
- 9. Cyber Laws Law By: Dr Sarla Gupta Beniprasad Agarwal
- 10. Email Hacking By: Ankit Fadia **Publisher:** Vikas Publishing House Pvt. Ltd.
- 11. Ethical Hacking Guide to Corporate Security By: Ankit Fadia **Publisher:** Macmillan India Ltd.

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Paper No.: 603

Paper Title: PROJECT

Two months are allocated for Project Work. All students have to carry out project work (either in college or in Industry). Kindly follow the following guidelines with respect to Project. Project viva will be conducted at the end of the semester.

Guidelines for the Project

All the students will have to submit following reports to their respective examination centers at least before one week of the final examination.

- 1. The Joining Report.**
- 2. Project Title Report.**
- 3. Fortnightly progress Reports signed by the external guide & submitted to the internal guide.**
- 4. Project completion certificate from the organization where the project was done.**
- 5. Project completion certificate from the college.**

Without the above mentioned documents, student shall not be allowed to appear in the final examination.

VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT
Bachelor of Computer Application (B.C.A) 3rd Year
Syllabus

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Teaching and evaluation scheme

Paper No.	Title	Teaching Schedule	University Examination		Internal Examination		Total
		Lect./Prac. (Hrs.)	Duration (Hrs.)	Marks	Duration (Hrs.)	Marks	
601	Computer Graphics	4.5	3	70	2	30	100
602	E-Commerce & Cyber Security	4.5	3	70	2	30	100
603	Project	2 Months	-	210	-	90	300
TOTAL				350		150	500