SRI VENKATESWARA UNIVERSITY :: TIRUPATI

4-5-101

BACHELOR OF COMPUTER APPLICATIONS

BCA – FIFTH SEMESTER – W.E.F. 2017-18

BCA 502: NETWORK SECURITY

UNIT – I

INTRODUCTION: OSI Security Architecture - Classical Encryption techniques - Cipher Principles - Data Encryption Standard - Block Cipher Design Principles and Modes of Operation.

UNIT - II

PUBLIC KEY CRYPTOGRAPHY: Key Management - Diffie-Hellman key Exchange - Elliptic Curve Architecture and Cryptography - Introduction to Number Theory - Confidentiality using Symmetric Encryption - Public Key Cryptography and RSA.

UNIT – III

AUTHENTICATION AND HASH FUNCTION : Authentication requirements - Authentication functions - Message Authentication Codes - Hash Functions - Security of Hash Functions and MACs - MD5 message Digest algorithm - Secure Hash Algorithm - RIPEMD - HMAC Digital Signatures - Authentication Protocols - Digital Signature Standard.

UNIT - IV

NETWORK SECURITY : Authentication Applications: Kerberos - X.509 Authentication Service - Electronic Mail Security - PGP - S/MIME - IP Security - Web Security.

UNIT – V

SYSTEM LEVEL SECURITY: Intrusion detection - password management - Viruses and related Threats - Virus Counter measures - Firewall Design Principles - Trusted Systems.

TEXT BOOKS

1. William Stallings, "Cryptography And Network Security - Principles and Practices", Prentice Hall of India, Third Edition, 2003.
2. Atul Kahate, "Cryptography and Network Security", Tata McGraw-Hill, 2003.

REFERENCES

3. Bruce Schneier, "Applied Cryptography", John Wiley & Sons Inc, 2001.
4. Charles B. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Third Edition, Pearson Education, 2003.

Code No:

SRI VENKATESWARA UNIVERSITY: TIRUPATI
BCA (CBCS)
Fifth Semester Examinations
NETWORK SECURITY

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer any five of the following
Questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. Explain the Security Architecture.
2. Write about DES.
3. Write about Public Key.
4. Explain the Number Theory.
5. Write about Authentication
6. Define Web Security.
7. Write about Firewall.
8. Explain trusted systems?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks
UNIT – I

9. Write about OSI Security Architecture.
OR
10. Explain the Block Cipher Design Principles?

UNIT-II

11. Explain the RSA Algorithm ?
OR
12. Explain Public Key Cryptography?

UNIT-III

13. Explain Authentication Protocols in detail?
OR
14. Write about Secure Hash Algorithm.

UNIT-IV

15. Write about Electronic Mail Security?
OR
16. Write about Kerberos.

UNIT-V

17. Explain the Intrusion detection.
OR
18. Write about Viruses and Threats in detail.

4-5-102

BCA 503 : SOFTWARE ENGINEERING

UNIT I

INTRODUCTION: Software Engineering Process paradigms - Project management - Process and Project Metrics – software estimation - Empirical estimation models - Planning - Risk analysis - Software project scheduling.

UNIT II
REQUIREMENTS ANALYSIS : Requirement Engineering Processes – Feasibility Study – Problem of Requirements – Software Requirement Analysis – Analysis Concepts and Principles – Analysis Process – Analysis Model

UNIT III
SOFTWARE DESIGN: Software design - Abstraction - Modularity - Software Architecture - Effective modular design - Cohesion and Coupling - Architectural design and Procedural design - Data flow oriented design.

UNIT IV
USER INTERFACE DESIGN AND REAL TIME SYSTEMS : User interface design - Human factors - Human computer interaction - Human - Computer Interface design - Interface design - Interface standards.

UNIT V
SOFTWARE QUALITY AND TESTING : Software Quality Assurance - Quality metrics - Software Reliability - Software testing - Path testing – Control Structures testing - Black Box testing - Integration, Validation and system testing - Reverse Engineering and Re-engineering.
CASE tools –projects management, tools - analysis and design tools – programming tools - integration and testing tool - Case studies.

TEXT BOOK:
1. Roger Pressman S., "Software Engineering: A Practitioner's Approach", 7th Edition, McGraw Hill, 2010.

REFERENCE BOOKS
2. Software Engineering Principles and Practice by Deepak jain, Oxford University Press
3. Sommerville, "Software Engineering", Eighth Edition, Pearson Education, 2007
4. Pfleeger, "Software Engineering-Theory & Practice", 3rd Edition, Pearson Education, 2009
5. Carlo Ghazi, Mehdi Jazayari, Dino Mandrioli, "Fundamentals of Software Engineering", Pearson Education, 2003

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Fifth Semester Examinations
SOFTWARE ENGINEERING

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        Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. What is software?
2. Write about Software architecture.
3. Write about Data flow.
4. Explain Interface design.
5. Write about software design
6. Define Coupling.
7. Write about SQA.
8. Explain Quality metrics?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks

UNIT – I
9. Explain in detail about Empirical estimation models.
OR
10. Explain the Software project scheduling?

UNIT-II
11. Explain the Requirement Engineering Processes?
OR
12. Explain Analysis Model in detail?

UNIT-III
13. Explain in detail about architectural styles and patterns?
OR
14. Write about Software Architecture.

UNIT-IV
15. Explain briefly about User interface design?
OR
16. Describe about Computer Interface design and its standards.

UNIT-V
17. Explain different methods involve in Software Quality Assurance.
OR
18. Explain different types of software testing with its advantages

4-5-103

BCA 504 :OOAD - OBJECT ORIENTED ANALYSIS AND DESIGN

UNIT I

Introduction to OOAD – What is OOAD? – What is UML? What are the United process(UP) phases - Case study – the Next Gen POS system, Inception -Use case Modeling - Relating Use cases – include, extend and generalization.

UNIT II

Elaboration - Domain Models - Finding conceptual classes and description classes – Associations – Attributes – Domain model refinement – Finding conceptual class hierarchies- Aggregation and Composition- UML activity diagrams and modelling.

UNIT III

System sequence diagrams - Relationship between sequence diagrams and use cases Logical architecture and UML package diagram – Logical architecture refinement - UML class diagrams - UML interaction diagrams.

UNIT IV

GRASP: Designing objects with responsibilities – Creator – Information expert – Low Coupling –Controller – High Cohesion – Designing for visibility - Applying GoF design patterns – adapter, singleton, factory and observer patterns.

UNIT V

UML state diagrams and modeling - Operation contracts- Mapping design to code -UML deployment and component diagrams.

TEXT BOOK:

1. Object Oriented Analysis and Design By Grady Booch.

REFERENCE BOOKS:

2. Craig Larman,"Applying UML and Patterns: An Introduction to object-oriented Analysis and Design and iterative development", Third Edition, Pearson Education, 2005
3. Mike O'Docherty, "Object-Oriented Analysis & Design: Understanding System Development with UML 2.0", John Wiley & Sons, 2005.

4. James W- Cooper, Addison-Wesley, "Java Design Patterns – A Tutorial", 2000.
5. Micheal Blaha, James Rambaugh, "Object-Oriented Modeling and Design with UML", Second Edition, Prentice Hall of India Private Limited, 2007
6. Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides,"Design patterns: Elements of Reusable object-oriented software", Addison-Wesley, 1995.

Code No:

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BCA (CBCS)
Fifth Semester Examinations
OBJECT ORIENTED ANALYSIS DESIGN

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.

   Part A is compulsory which carries 25 marks. Answer any five of the following
   Questions in Part A.

   Part B consists of 5 Units. Answer any one full question from each unit.

   Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. What is OOAD?
2. Write about UML.
3. Write about Use case modelling.
4. Activity Diagrams.
5. Write about Sequential diagrams
6. Define GoF.
7. Write about State diagram.
8. Explain Mapping?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks

UNIT – I
9. Explain in detail about NextGen POS system.
OR
10. Explain Relating Use cases in detail?

UNIT-II
11.Describe briefly about Domain model refinement?
OR
12. Explain UML activity diagrams with an example?

UNIT-III
13. Explain in detail about Logical architecture refinement?
OR
14. Write about UML class diagrams with example.

UNIT-IV
15. Explain briefly about GoF design Pattern?
OR
16. Describe about Designing objects with responsibilities.

UNIT-V
17. Explain different Operation contracts.
OR
18. Explain UML deployment and component diagrams with example.

4-5-104

ELECTIVE 1: BCA 505.A
DATA MINING & WARE HOUSING

Unit I

Introduction to Data Mining, Fundamentals of data mining, data mining functionalities, data and attribute types, statistical description of data.

Data Preprocessing:

Data cleaning, data integration, data reduction, data transformation and data discretization.

Unit II

Data Warehousing: Basic concepts, data ware house modeling data cube and OLAP, data warehouse design and implementation.

Unit III

Mining Frequent Patterns and Associations: Basic methods, frequent Item set mining methods any two algorithms, pattern evaluation methods.

Unit IV

Classification: Basic concepts, decision tree induction, Bayes classification, any two advanced methods, model evaluation.

Unit V

Cluster Analysis: Basic concepts, clustering structures, major clustering approaches, partitioning methods, hierarchical methods, density based methods, the expectation maximization method, cluster based outlier detection Essential Reading.

Text Book

1. Data Mining by Vikram Pudi, P.Radha Krishna, Oxford Universith Press

Reference Books:

2. Data Warehousing by Reema Thareja , Oxford University Press
3. J. Han , M. Kamber and J. Pei , Data Mining: Concepts and Techniques , 3rd.edMorgan Kaufmann, 2011
4. Introduction to data mining –G.K.Gupta, PHI
5. Data mining, Data warehouse & Olap-Berson, Tata McGraw Hill

Data Mining Lab

1. Demonstration of preprocessing on dataset student.arff
2.   Demonstration of preprocessing on dataset labor.arff
3.   Demonstration of Association rule process on dataset contactlenses.arff using apriori algorithm
4.   Demonstration of Association rule process on dataset test.arff using apriori algorithm
5.   Demonstration of classification rule process on dataset student.arff using j48 algorithm
6.   Demonstration of classification rule process on dataset employee.arff using j48 algorithm
7.   Demonstration of classification rule process on dataset employee.arff using id3 algorithm
8. Demonstration of classification rule process on dataset employee.arff using naïve bayes algorithm
9.   Demonstration of clustering rule process on dataset iris.arff using simple k-means

10. Demonstration of clustering rule process on dataset student.arff using simple k-means.

Code No:

DATA MINING & WARE HOUSING
Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following Questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks

5 x 5 = 25 Marks

1. List out the Basic Data mining tasks?
2. Explain Database/OLTP Systems?
3. Write about data warehouse modelling.
4. Explain the issues in classification?
5. Write about CART.
6. Write about Hierarchical clustering in detail.
7. Explain the concept of Minimum spanning Tree?
8. Write about Regression in detail.

PART - B
Answer one question from each Unit. All questions carry equal marks

5 x 10 = 50 Marks

UNIT – I
9. Explain the statistical perspective on Data mining?

OR

10. Explain the process of Data pre-processing with neat diagram?

UNIT-II
11. Write about OLAP and explain the OLAP operations.

OR

12. Explain the concept Data warehousing & explain the ways to improve the performance of data warehouse applications?

UNIT-III
13. Write about Item set mining methods & explain Apriority algorithm?

OR

14. Explain the pattern evaluation methods in detail?

UNIT-IV
15. Explain the Decision Tree based algorithms with advantages and disadvantages?

OR

16. Explain Bayesian classification with example?

UNIT-V
17. Explain the general steps of hierarchical clustering and partitional clustering.

OR

18. Write about DBSCAN[Density Based Spatial Clustering of Application with Noise].

4-5-105

ELECTIVE 1: BCA 505.B COMPUTER NETWORKS

UNIT I
Network architecture – layers – Physical links – Channel access on links – Hybrid multiple access techniques - Issues in the data link layer - Framing – Error correction and detection – Link-level Flow Control.

UNIT II
Medium access – CSMA – Ethernet – Token ring – FDDI - Wireless LAN – Bridges and witches

UNIT III
Circuit switching vs. packet switching / Packet switched networks – IP – ARP – RARP – DHCP – ICMP – Queueing discipline – Routing algorithms – RIP – OSPF – Subnetting – CIDR – Interdomain routing – BGP – Ipv6 – Multicasting – Congestion avoidance in network layer

UNIT IV
UDP – TCP – Adaptive Flow Control – Adaptive Retransmission - Congestion control – Congestion avoidance – QoS

UNIT V
Email (SMTP, MIME, IMAP, POP3) – HTTP – DNS- SNMP – Telnet – FTP – Security – PGP - SSH

TEXT BOOK:
1. Andrew S. Tanenbaum, "Computer Networks", Fourth Edition, 2003

REFERENCE BOOKS:
2. Computer Networks by Bhushan Trivedi,Oxford University Press
3. James F. Kuross, Keith W. Ross, "Computer Networking, A Top-Down Approach Featuring the Internet", Third Edition, Addison Wesley, 2004.
4.Nader F. Mir, "Computer and Communication Networks", Pearson Education, 2007
5.Comer, "Computer Networks and Internets with Internet Applications", Fourth Edition, Pearson Education, 2003.
6. William Stallings, "Data and Computer Communication", Sixth Edition, Pearson vi, 2000

Computer Networks lab

1 Implementation of Stop and Wait Protocol and Sliding Window Protocol
2 Study of Socket Programming and Client – Server model
3 Write a code simulating ARP /RARP protocols.
4. Write a code simulating PING and TRACEROUTE commands
5. Create a socket for HTTP for web page upload and download.
6. Write a program to implement RPC (Remote Procedure Call).
7. Implementation of Subnetting.
8. Applications using TCP Sockets like
      a. Echo client and echo server   b. Chat   C. File Transfer
9. Applications using TCP and UDP Sockets like DNS, SNMP and File Transfer.
10. Study of Network simulator (NS).and Simulation of Congestion
Control Algorithms using NS

11. Perform a case study about the different routing algorithms to select the network path with its optimum and economical during data transfer.

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COMPUTER NETWORKS

Time: 3 Hours   **Max. Marks: 75**

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  Part A is compulsory which carries 25 marks. Answer any five of the following
  Questions in Part A.
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  Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks

5 x 5 = 25 Marks

1. write about Multiplexing in detail
2. List out the types of Errors in data link layer.
3. Write about CSMA in detail.
4. Explain the ARP with some example?
5. Write about Token Ring in detail.
6. Define Data traffic.
7. Write about SMTP in detail.
8. Write about FTP in detail.

PART - B
Answer one question from each Unit. All questions carry equal marks

5 x 10 = 50 Marks

UNIT – I
9. What is OSI Model? Explain the functions, protocols and services of each layer?
OR
10. Explain the Error correction and Detection methods in data link layer?

UNIT-II
11. Explain the CSMA/CD protocol in detail?
OR
12. Explain the Different types of Ethernets in detail?

UNIT-III
13. Differentiate between circuit switching and packet switching?
OR
14. Differentiate IPV4 and IPV6 protocols & explain the transformation of IPV4 to IPV6?

UNIT-IV
15. Explain the congestion control techniques in detail?
OR
16. Write about Quality of Service in Transport Layer?

UNIT-V
17. Define HTTP and DNS in detail
OR
18. What are the advantages and disadvantages of Public key encryption and write about Digital signature.

ELECTIVE 1: BCA 505.C
CYBER FORENSICS

Unit I

Introduction to Computer Forensics *:* Computer forensics definitions ,Computers' roles in crimes ,Computer forensics tasks ,Prepare for an investigation, Collect evidence ,Preserve evidence ,Recover evidence, Document evidence Challenges associated with making "cybercrime" laws, Jurisdictional issues.

Unit II

Computer Crimes :Crimes ,Violent crimes where computers are used include terrorism, assault threat, stalking, child pornography ,Nonviolent crimes where computers are used include trespass, theft, fraud, vandalism , Where evidence often resides for different types of crimes ,Address books, chat logs, e-mail, images, movies, Internet browser history, etc.

Unit III

Computer Criminals: Using evidence to create a crime timeline , Modify Access Create (MAC) dates associated with files ,Problems with using these (they don't change in a logical fashion in some cases) ,Criminals and crime fighters ,Understanding "cyber criminals" and their victims ,Understanding "cyber investigators.

Unit IV

Building a Cybercrime Case*:* Bodies of law ,Constitutional law ,Criminal law ,Civil law ,Administrative regulations ,Levels of law ,Local laws ,State laws ,Federal laws ,International laws ,Levels of culpability ,Intent ,Knowledge ,Recklessness ,Negligence , Level and burden of proof ,Criminal versus civil cases ,Vicarious liability ,Laws related to computers ,CFAA, DMCA, CAN Spam, etc.

Unit V

Preserving and Recovering Digital Evidence*:* Disk imaging ,Creating a message digest or hash code for a disk ,Where data hides; deleted and erased data ,File systems ,Files ,Modify Access Create (MAC) dates to establish time line ,File headers - info about file type.

TEXT BOOKS:

1.   Guide to Computer Forensics and Investigations ,By Bill Nelson, Amelia Phillips, christopher Steuart

REFERENCE BOOKS:

2.   Scene of the Cybercrime, by Debra Littlejohn Shinder.
3. John R. Vacca, Computer Forensics: Computer Crime Scene Investigation, 2nd Edition, Charles River Media, 2005
4. Christof Paar, Jan Pelzl, Understanding Cryptography: A Textbook for Students and Practitioners, 2 nd Edition, Springer's, 2010
5 . Ali Jahangiri, Live Hacking: The Ultimate Guide to Hacking Techniques & Countermeasures for Ethical Hackers & IT Security Experts, Ali Jahangiri, 2009
6. Computer Forensics: Investigating Network Intrusions and Cyber Crime (Ec-Council Press Series: Computer Forensics), 2010.

Computer Forensics lab

The Sleuth Kit and Autopsy

The Sleuth Kit (TSK) and the Autopsy Forensic Browser are open source Unix-based tools . TSK is a collection of over 20 command line tools that can analyze disk and file system images for evidence. To make the analysis easier, the Autopsy Forensic Browser can be used. Autopsy is a front end to the TSK tools and provides a point-and-click type of interface.

1) Use of disk tools to analyze the tool displays the total number of sectors and the user-accessible sectors.
2) Use of volume system tools to analyze the disk volume and partitions , whether they are allocated properly or not
3) File system tools to analyze the file system , its type and its description
4) Content category tool to analyze the data in the directory
5) Meta data category tool to analyze the data that describes a file
6) File name category tool to analyze The file name category of data includes the data that associates a name with a metadata entry.
7) Multiple category tool to analyze that combine the data from the various categories to produce the data sorted in a different order
8) Experiment to use the searching tools

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Fifth Semester Examinations
CYBER FORENSICS

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Part A is compulsory which carries 25 marks. Answer any five of the following Questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks

5 x 5 = 25 Marks

1. Define Computer forensics
2. List out the types of Nonviolent.
3. Write about Cyber Crime.
4. Explain Internet browser history?
5. Write about Modify Access Create.
6. cyber criminals.
7. Write about Levels of law.
8. Write about Disk Images.

PART - B
Answer one question from each Unit. All questions carry equal marks

5 x 10 = 50 Marks
UNIT – I
9. Explain different Computers' roles in crimes?
OR
10. Explain the Challenges associated with making "cybercrime" laws?

UNIT-II
11. Explain briefly about violent crimes and non-Violent crimes?
OR
12. Explain the Different types of crimes in internet?

UNIT-III
13. Briefly describe about Computer criminals?
OR
14. Explain in detail about cyber investigation?

UNIT-IV
15. Explain different Laws related to computers?
OR
16. Write about CFAA, DMCA, CAN Spam.
UNIT-V
17. What are the steps involve in Creating a message digest or hash code for a disk
OR
18. Describe about file system with explanation.

4-5-107

Elective -2 : BCA 506.A ANDROID BASICS

UNIT-I
What is Android, Android Tools, Your First Android Application, Anatomy of Android Application, Workspaces, Editors in Eclipse, Eclipse Perspective, Refactoring

UNIT-II
Creating Android Emulator, Creating Snapshot, SD Card Emulation, Sending SMS Messages to the Emulator , Transferring Files into and out of the Emulator ,Resetting the Emulator

UNIT-III
Activity, Linking Activity using Intent, Fragments, Calling Build-In Application using Intent, Notifications

UNIT-IV
Components of a Screen, Display Orientation, Action Bar, Listening for User Inter

UNIT-V
Basic Views, Picker Views, List View, Specialized Fragment, Gallery and Image View, Image Switcher, Grid View, Options Menu, Context Menu, Clock View, Web view

Text Book:

1. Android Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides) **By: Bill Philips & Brian Hardy**

REFERENCE BOOKS:
1. Android Design Patterns: Interaction design solutions for developers by **Greg Nudelman**
2. Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps
   By: Ian G. Clifton
3. Android Recipes: A Problem-Solution Approach **By: Dave Smith & Jeff Friesen**
4. Hello, Android: Introducing Google's Mobile Development Platform (Pragmatic Programmers) **By: Ed Burnette**

Android basics lab

Exercise 1
- *Developing Simple Applications for Android*

Exercise 2
- *Creating Applications with Multiple Activities and a Simple Menu using ListView*

Exercise 3
- *Creating Activities For Menu Items and Parsing XML Files*

Exercise 4
- *Writing Multi-Threaded Applications*

Exercise 5
- *Using WebView and Using the Network*

Exercise 6
- *Using Audio Functions in Android*

Exercise 7
- *Graphics Support in Android*

Exercise 8
- *Preferences and Content Providers*

Exercise 9
- *Location Services and Google Maps in Android*
- *Data Storage*

Exercise 10
- *Simulating Sensors*

Code No:

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ANDROID BASICS

Time: 3 Hours   **Max. Marks: 75**

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       Questions in Part A.
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       Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. What is Android?
2. Explain anatomy of android applications.
3. Write about Refactoring.
4. Explain Android Emulation?
5. Explain the process of linking activity using internet.
6. List out the notifications in android.
7. Write about action bar with example.
8. Write about clock view?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks
UNIT – I
9. Design an android application using work spaces.
OR
10. Explain Eclipse perspective in detail?

UNIT-II
11. Create a snapshot and in android?
OR
12. Design the process for sending SMS to the Emulator?

UNIT-III
13. Write about linking activity and fragments in detail?
OR
14. Write about build – in applications with example?

UNIT-IV
15. List out the components of a screen in android.
OR
16. Write about display orientation with example.

UNIT-V
17. Explain basic views, Picker views, list view in detail.
OR
18. Write about gallery and image switcher and grid view with example.

Elective -2 :BCA 506 B
PRINCIPLES OF ANIMATION

UNIT-I

What is Animation: Its definition, early examples of Animation. History of Animation: Stop Motion Photo Animation, Zoetrope, Thaumatrope, Cell and Paper Animation, early Disney's Cell Animation Processes

UNIT-II

Types of Animation: Cell Animation, Stop Motion Animation, Computer Animation, 2-D Animation, 3-D Animation. Skills for an Animation Artist: Visual and creative development of an Artist , importance of observation with minute details, efficiency to draw gestures, facial expressions, good listener, hard work and patience, creative and innovative.

UNIT-III

Basic Principles of Animation: Illusion of Life, straight action and pose to pose Timing, Exaggeration, Drama and Psychological Effect, Fade in and Fade out, Squash and Stretch, Anticipation, staging, follow through and overlapping action, Arcs, Solid Drawing ,Appeal, slow in and slow out, Secondary Action.

UNIT-IV

Various Terms: Animation Drawings/Cels, Rough Drawings , Clean ups, Color reference drawings, Layout, Model Sheet, Key Drawings and in Betweens, Master Background, Concept Piece, Character drawing , Story Board.

Text Book:
1.The complete animation course by Chris Patmore -Baron's Educational Series.(New York)

REFERENCE BOOKS:
2. Animation Unleashed by Ellen Bessen, Michael Weise Productions,2008(U.S.A)
3.The Animator's Survival Kit by Richard Williams, Arrar Straus & Giroux Pub.(U.S.A

Student Activity:
1. Develop a simple animated short film
2. Develop a simple animated short film with back ground music

Computer Animation lab

ADVANCED 2D ANIMATION

1: Action scripting

Using actions to control a timeline - Using frame labels - Creating button symbols - Creating animated buttons using movie clips – Movie Clip Controls – Browser / network.

2: Advanced Animation Methods

Creating movies playing within movies (movie clips and .swf) - Controlling multiple timelines (movies) through action scripting - Critique storyboards.

3: Streamlining Files for Use on the Web, Publishing Files to the Internet & Pre loaders

Pre loaders - Controlling sound with script - Exploring types of output - Work on final project in class - Importing video - Publishing demo (video) reels on web - Publishing and exporting files - Trouble shooting sites.

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PRINCIPLES OF ANIMATION

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.
      Part A is compulsory which carries 25 marks. Answer any five of the following
      Questions in Part A.
      Part B consists of 5 Units. Answer any one full question from each unit.
      Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. What is Animation?
2. Write about cell animation processes.
3. Write about 2D Animation with example.
4. Explain Facial expression in detail?
5. Write about basics principles of animation.
6. Differentiate between fade in and fade out.
7. Write about key drawings in animation.
8. Write about Story board?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks

UNIT – I
9. Write about history of animation in detail.
OR
10. Explain Motion photo animation with Zoetrope?

UNIT-II
11. Explain the skills for an animation artist in detail?
OR
12. Write about 2D animation and 3D Animation in developing Visual effects?

UNIT-III
13. List out the straight action and pose to pose timing in detail?
OR
14. Write about Exaggeration and Psychological effect with example?

UNIT-IV
15. Explain various terminologies in animation drawings.
OR
16. Develop colour reference drawings for a particular picture.

UNIT-V
17. Explain the layout and model sheet in the animation.
OR
18. Differentiate between master background and character drawing.

Elective -2 :BCA 506C
SOFTWARE TESTING METHODOLOGIES

UNIT-I
Introduction: Purpose of testing, Dichotomies, model for testing, consequences of bugs, taxonomy of Bugs.
Flow Graphs and Path testing: Basics concepts of path testing, predicates, path predicates and Achievable paths, path sensitizing, path instrumentation, application of path testing.

UNIT-II
Transaction Flow Testing: Transaction flow, transaction flow testing techniques.
Dataflow testing: Basics of dataflow testing, strategies in dataflow testing, application of dataflow testing.
UNIT-III
Domain Testing: domains and paths, Nice & ugly domains, domain testing domains and interfaces Testing, domain and interface testing, domains and testability.

UNIT-IV
Paths, Path products and Regular Expressions: Path products & path expression, reduction procedure, Applications, regular expressions & flow anomaly detection.
Logic Based Testing: Overview, decision tables, path expressions kv charts, specifications.

UNIT-V
State, State Graphs and Transition testing: State graphs, good & bad state graphs state testing, Testability tips.
Graph Matrices and Application: Motivational overview, matrix of graph, relations, power of a matrix, Node reduction algorithm, building tools. (Student should be given an exposure to a tool like J Meter or Win runner.)

Text Book:
1. Software Testing techniques –Baris Beizerm Dreamtech, Second edition.

REFERENCE BOOKS:
2. Software Testing Tools – Dr. K.V.K.K. Prasad, Dreamtech.
3. Software Testing Principles and Practices by Naresh Chauhan, Oxford University Press
3. The craft of software testing – Brain Matrick, Pearson Education.
4. Software Testing Techniques – SPD (Oreille)
5. Software Testing in the Real World-Edward Kit, Pearson.
6. Effective methods of Software Testing, Peery, John Wiley.
7. Art of Software Testing – Meyers, John Wiley.

Testing Tools Lab
1. Introduction to win runner testing tool
2. Recording test in context sensitive & analog mode
3. Synchronizing test.
4. Checking gui objects
5. Checking bitmap objects.
6. Programming test with tsl
7. Creating data driven test
8. Maintaining test script
9. Batch test
10. Project (creating test report)

Code No:

SRI VENKATESWARA UNIVERSITY: TIRUPATI
BCA (CBCS)
Fifth Semester Examinations
SOFTWARE TESTING METHODOLOGIES

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.
　　　Part A is compulsory which carries 25 marks. Answer any five of the following
　　　Questions in Part A.
　　　Part B consists of 5 Units. Answer any one full question from each unit.
　　　Each question carries 10 marks

PART - A
Answer any Five of the following. All questions carry equal marks
5 x 5 = 25 Marks

1. Explain the goals for testing and models for testing?
2. Demonstrate test bug remedies in detail.
3. Write about Dichotomies.
4. Explain transaction flow testing?
5. Write about nice and ugly domains.
6. Demonstrate path statement and path testing criteria.
7. Write about decision tables with related example.
8. Explain Testability Tips in detail?

PART - B
Answer one question from each Unit. All questions carry equal marks
5 x 10 = 50 Marks

UNIT – I
9. Explain external interfaces and internal interfaces & discuss the consequences of bugs.
OR
10. Explain the basic concepts of path testing and path predicates?

UNIT-II
11. Explain the strategies in data flow testing?
OR
12. Explain transaction flow testing in detail?

UNIT-III
13. What is meant by domain testing explain in detail?
OR
14. Explain domain and explain different domain bugs?

UNIT-IV
15. Write about reduction procedure and applications of regular expression.
OR
16. Write about KV charts and logic based testing overview.

UNIT-V
17. Explain the Intrusion detection.
OR
18. Explain about knowledge based systems in logical based testing.