H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM1 – INTRODUCTION TO INFORMATION TECHNOLOGY AND WEB DESIGN

UNIT I
Introduction to Computers: Introduction – Types of Computer – Characteristics of Computers – Classification of Digital Computer System – Anatomy of a Digital Computer.

UNIT II
Introduction to Computer Software, Operating Systems – Programming Languages – General Software Features and Trends.

UNIT III

Internet and World Wide Web – Electronic Mail – Intranets .

UNIT IV
Introduction To HTML : Designing A Home Page – HTML Document – Anchor Tag – Hyperlinks – Head And Body Sections : Header Section – Title – Links – Colorful Pages – Comments – Body Section.

UNIT V
Heading – Horizontal Ruler – Paragraph – Tabs – Images and Pictures – Lists and their Types – Table Handling.

TEXT BOOK
1. Fundamentals of Information Technology – Alexis Leon, Mathews Leon – Leon Vikas Publishing Pvt Ltd., New Delhi 1999.
   UNIT I: Chapter 1, 2, 3
   UNIT II: Chapter 10, 11, 12, 13
   UNIT III: Chapter 21, 22, 23
2. World Wide Web Designing, C.Xavier, Tata McGraw Hill, 2000.
   UNIT IV: Chapter 4, 5
   UNIT V: Chapter 6, 7, 8

REFERENCE BOOKS:
1. Introduction to Information Technology – P. Rizwan Ahmed Margham Publications.
2. Programming the World Wide Web – Robert W. Sebesta Fourth Edition Pearson .

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM2P – WEB DESIGN LAB

1. Font, Size, Width and Alignment
2. Text, Marquee, Heading and Paragraph
3. Tab Setting
4. Images and Border
5. Ordered and Unordered List.
6. Table

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

EVS – ENVIRONMENTAL STUDIES

UNIT I

a) Nature Of Environment And Environmental Studies
b) Definition. Scope And Importance; Need For Public Awareness
c) Renewable And Non –Renewable Resources And Their Management
d) A Preliminary Knowledge on the Following Resources: Forest, Water, Mineral, Food and Energy.

UNIT II

a) Concept Of An Eco System, Structure Of An Eco System, Producers, Consumers And Decomposers
b) Energy Flow in the Eco System, Food Chains, Food Webs and Ecological Pyramids.

UNIT III

a) Bio –Diversity And Its Conservation – Introduction – Definition Genetic – Species And Ecosystem Diversity
b) Bio –Geographical Classification of India. Value Of Bio –Diversity: Consumptive Use – Productive Use Social – Ethical – Aesthetic And Option Values
c) Threats To Bio –Diversity : Habitat Loss – Poaching Of Wild Life – Man, Wild Life Conflicts
d) Endangered And Endemic Species Of India, Conservation Of Bio –Diversity

UNIT IV

a) Environmental Pollution – Definition, Causes, Effects Control Measures Of Air Pollution, Water Pollution And Soil Pollution, Marine Pollution, Noise Pollution, Thermal And Nuclear Pollution
b) Soil Wastage Management: Causes, Effects And Control Measures Of Urban And Industrial Wastes.

UNIT V

a) Social Issues and Problems from Unsustainable To Sustainable Development, Urban Problems Related To Energy Conservation.
b) Population Growth, Variation Among Nations
c) Population Explosion – Family Welfare Programme
d) Environment and Human Health, Human Rights, Value Education, HIV/Aids, Women Child Welfare.

Question Pattern
Answer any 5 out of 8 Questions
5 X 15 = 75 Marks

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

SBEC1 - MULTIMEDIA SYSTEMS

UNIT I

Introduction to Multimedia – CDROM and the Multimedia Highway – Use of Multimedia – Introduction to Making Multimedia – Multimedia Skills

UNIT II

Multimedia Hardware – Macintosh and Windows Production Platforms - Hardware Peripherals – Connections - Memory and Storage Devices

UNIT III

Multimedia Software – Media Software Basic Tools - Making Instant Multimedia - Multimedia Software and Authoring Tools

UNIT IV

Multimedia Building Blocks – Text - Sound

UNIT V

Images - Animation and Video

TEXT BOOK

Tay Vaughan –"Multimedia Making It Work" Fifth Edition- Tata Mcgraw Hill Edition 2001.
UNIT I: Chapter 1
UNIT II: Chapter 2
UNIT III: Chapter 3
UNIT IV: Chapter 4(9, 10)
UNIT V: Chapter 4(11, 12, 13)

REFERENCE BOOK

"Multimedia Technology and Applications" – David Hillman

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM3 – C AND DATA STRUCTURES

Unit I

Overview of C: History of C – Importance of C – Constants, Variables and Data Types: Introduction – Character set – C Tokens – Keywords and Identifiers – Constants – Variables – Data Types – Declaration of Variables – Declaration of Storage Class – Operator and Expressions.

Unit II

Managing Input and Output Operations: Introduction – Reading a Character – Writing a Character – Formatted input and Output. Decision Making and Branching: Decision making if Statement – Simple if Statement – if else Statement – Nesting of if…else Statement – else if ladder – switch statement – $_{goto}$ Statement – Decision Making Looping: while, do while & for Statement.

Unit III

Arrays: One Dimensional Arrays – Declaration of One Dimensional arrays – Initialization of one Dimension arrays – Two Dimensional arrays – Initialization of two Dimension arrays – Multi Dimensional Arrays. User – Defined Functions: Need for user Defined Functions – A multi function Program – Elements of user defined functions – Return value and their types – Function calls and Declaration.

Unit IV

Structure and Unions: Introduction – Defining a Structure – Declaration of structure variables – Accessing structure members – Structure Initializations. Pointers: Accessing the address of a variable – Declaring Pointer Variable. File Management: Defining and Opening a File – Closing a File – I/O Operation on File.

Unit V:

Data Structure: Introduction – Overview – Arrays – Ordered Lists.

Stacks and Queues: Fundamentals – Evaluation of Expressions.

Internal Sorting: Searching – Insertion Sort – Quick Sort – Merge Sort.

TEXT BOOKS:

1. Programming in ANSI C – E.BALAGRUSAMY _ Fourth Edition – Tata McGraw Hill. Unit I: Chapter 1.1, 1.2, 2.1to 2.9, 3.1 – 3.12
   Unit II: Chapter 4.5, 6.1 – 6.5
   Unit III: Chapter 7.1 – 7.7, 9.1 – 9.8
   Unit IV: Chapter 10.1 – 10.4, 11.3 –11.4, 12.2 –12.4
2. Fundamentals of Data Structures – Ellis Horowits, Sahni – Galgotia Book Sources Fourth Edition.(For V Unit)
   Unit V: Chapter 1.1, 2.1, 2.2, 3.1, 3.3, 7.1, 7.2, 7.3, 7.5

REFERENCE BOOKS:

1."Programming with C – Byron S Gottfried" – Schaum's Outline Series, Tata McGraw Hill, 1996.

2.Data Structures – Lipschuta, Tata Mcgraw Hill, Schaum's Outline Series.

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM4P – C AND DATA STRUCTURES LAB

1. Branching Statements
2. Iterative Statements
3. Switch Statements
4. Arrays
5. Recursive Function
6. Function with Call by Reference
7. Multifunction
8. Structure
9. File
10. Stack
11. Queue
12. Linear Search
13. Binary Search
14. Bubble Sort
15. Insertion Sort

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

VE – VALUE EDUCATION

UNIT I

Meaning and Nature of Value Education: Meaning and Concepts of Education: Meaning and Concepts of Value Education – Origin – Nature – Classification of Value – View of Eminent Thinkers – Meaning of Value Education – Need for Value Education.

UNIT II

Objectives and Development of Human Value: Role of School and College in the Development of Human Values – Objectives of Value Oriented Education. Ethical and Social Values – Gandhiji's Non Violence – Gokak Committee.

UNIT III

Strategies and Approaches to Value Education: Role of Education School, Family, Teacher for the Personal Value Development – Conceptional Frame Work – Strategy Suggested by J R Frankel – Ncert Approach to Value Education – Role Play technique in Value Education – Value Based Curriculum – Teachers Role.

UNIT IV

Sources Of Values : Sources of Values – Traditional Indian Values, Sources of Values – Culture, Education, Religion – Hinduism, Christianism, Islam, Buddhism – Indian Constitutions as source for Democratic Values – Equality – Secularism, Democracy – Research and Resources in Value Education.

UNIT V

Methods of Teaching and Documents on Human Value Education: Methods of Teaching Value Education – Guidelines for Developing Value among Students. Problems on Promoting Value Education – Documents of Value Education – Recommendation of the Committee appointed by the Central Advisory Board of Education – Recommendation of the University Education Commission 1964 –1966 – National Policy on Education 1986 –1992.

REFERENCE BOOKS

1. J C Aggarwal , Education For Values Environment And Human Rights , Shipra Publications , New Delhi 2005.

2. Dube S.C Modernization and Development, the Search for an Alternative Paradigm, Zee Books Ltd. London: 1988.

3. Mansell R and When U, Knowledge Societies: Information Technology For Sustainable Development, Oxford University Press, New York.

4. World Bank Knowledge for Development World Development Report, Oxford Unit Press, New York.

Question Pattern
Answer any 5 out of 8 Questions
5 X 15 = 75 Marks

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM5 – PROGRAMMING IN JAVA

UNIT I

Fundamentals of Object Oriented Programming – Java Evolution – Overview of Java Language – Data Types , Variables , Arrays – Operators – Control Statements.

UNIT II
Introduction to Classes – Class fundamentals – Declaring Objects – Constructors – Methods – Overloading Methods – Nested and Inner Classes – String Handling.

UNIT III
Inheritance – Method Overriding – Abstract Class – Packages – Interfaces – Exception Handling – Types Of Exception – Try And Catch – Nested Try Statements.

UNIT IV
Multithreaded Programming – Stream I/O and Files: Java I/O Classes and Interfaces – File – Stream Classes – Byte Streams – Character Streams – Using Stream I/O – Serialization – Stream Benefits.

UNIT V
Applets and Graphics: Fundamentals of Applets – Graphics – AWT and Event Handling: AWT Components and Event Handlers – AWT Controls and Event Handling Types and Examples.

TEXT BOOK
     Programming With Java A Primer 3/E E. Balaguruswamy
UNIT I: Chapter 1 to 7
UNIT II: Chapter 8, 9
UNIT III: Chapter 10, 11, 13
UNIT IV: Chapter 12, 16
UNIT V: Chapter 14, 15

REFERENCE BOOK
     Programming With Java – C. Muthu

Part – A Answer all the Questions 10 X 2 = 20 Marks	Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question 1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM6P – PROGRAMMING IN JAVA LAB

1. Classes and Objects

2. Control Statements

3. Constructors

4. Method Overloading and Overriding

5. String Handling

6. Inheritance

7. Packages

8. Interfaces

9. Exception Handling

10. Threads

11. File Processing

12. Graphics Methods

13. AWT controls

14. AWT Event Handling

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

NMEC1 – PRINCIPLES OF MANAGEMENT

Unit I

Introduction: Meaning and Definition of Management – Features and Functions of Management – Importance of Management – Functions and Role of Manager – Responsibilities of Professional Manager – Elements of Management – Principle of Management – Scientific Management – Principle of Scientific Management.

Unit II

Planning: Approaches of Management: System Approach – Situational Approach – Policy: Meaning –Features – Importance – Types of Policies – Merits and Demerits of Policy – Planning: Meaning – Definition – Characteristics – Objectives – Nature – Importance – Advantage – Steps in Planning Process – Methods of Planning – Limitation of Planning,

Unit III

Organization: Meaning – Definition – Function – Principles –Characteristics – Advantages – Classification: Formal Organization – Informal Organization – Types of Organization: Line Organization – Functional Organization – Line and Staff Organization – Committee Organization – Project Organization – Matrix Organization – Free Form Organization.

Unit IV

Staffing: Definition – Elements – Functions – Processing – Proper Staffing – Recruitment – Sources – Merits and Demerits – Selection – Importance – Stages of Selection Procedure – Kinds of Interviews – Principles of Interview – Process of Interview – Promotion – Training: Meaning – Definition – Elements – Importance and Need – Types of Training – Characteristics of Good Training.

Unit V

Leadership: Types of Leadership: Importance – Approaches – Functions – Types of Leaders – Characteristics of Leadership Styles. Co–Ordination: Definition – Characteristics of Importance – Essential and Effective – Techniques – Types – Steps for Effective Co–Ordination – Co–Ordination and Co –Operation.

TEXT BOOK

Principles of Management – T. Ramasamy Himalaya Publishing House, 8th Revised Edition

Unit I: Chapter 1, 2
Unit II: Chapter 3, 4, 5
Unit III: Chapter 9, 13
Unit IV: Chapter 15, 17
Unit V: Chapter 21, 25.

REFERENCE BOOKS

Principles of Management – C.M Prasad
Principles of Management – Dinkarpagare

Question Pattern
Answer any 5 out of 8 Questions
5 X 15 = 75 Marks

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

SBEC2 – SCRIPTING LANGUAGE

UNIT I

Introduction To Client/Server Computing – What Is Client/Server Computing –Benefits Of Client/Server Computing –Evaluation Of Client/Server Computing – Hardware And Software Trends – Categories Of Client/Server Computing.

UNIT II

JavaScript: JavaScript Variables and Data Types – Declaring Variables   – Data Types Statements and Operators   – Control Structures – Conditional Statements   – Loop Statements – Object.

UNIT III

Basic Programming – Functions – Executing Deferred Scripts – Objects Message Box in JavaScript – Dialog Boxes – Alert Boxes – Confirm Boxes.

UNIT IV

VBScript: What is VBScript Adding Script Code to an HTML Page – VBScript Basics – VBScript Data Types – VBScript Variables – VBScript Constants – VBScript Operators.

UNIT V

Using Conditional Statements – Looping through Code –VBScript Procedures – VBScript Coding Conventions – Dictionary Object in VBScript.

TEXT BOOK

1. Teach Yourself VBScript in 21 Days By Keith Brophy, Timothy Koets
2. Teach Yourself JavaScript in 21 Days By Keith Brophy, Timothy Koets

REFERENCE BOOK

Programming the World Wide Web – Robert W. Sebesta Fourth Edition Pearson

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM7 – PROGRAMMING IN C#

UNIT I

Introduction to C # : Evolution of C# – Characteristics of C# – Application of C# – Difference Between C++ and C# – Difference Between Java and C# – The C# Environment – Overview of C#.

UNIT II

Literal, Variables and Data Types : Literals – Variables – Data Types – Value Types – Reference Type – Declaration of Variables – Initialization of Variables – Default Values – Constant Variables – Scope of Variables – Boxing And Unboxing – **Operators and Expression:** Various Operators.

UNIT III

Decision Making And Branching: If Statement – – Switch Statement – The ?: Operator – **Decision Making And Looping:** While Statement – Do Statement – For Statement – Jumps in Loops.

UNIT IV

Methods in C#: Declaring Methods – The Main Method – Methods Parameters – Pass by Value – Pass by Reference – Variable Arguments List – Method Overloading – **Handling Arrays** – **Manipulating String** – **Classes and Objects:** Class – Objects – Constructors – Destructors**.**

UNIT V

Inheritance and Polymorphism: Classical Inheritance – Overriding Methods – Polymorphism – **Interfaces:** Multiple Inheritances and Interface. **Operator Overloading.**

TEXT BOOK

E. Balagurusamy, "Programming in C#", Tata McGraw Hill, 2004.

UNIT I: Chapter 1, 2, 3
UNIT II: Chapter 4, 5
UNIT III: Chapter 6, 7
UNIT IV: Chapter 8, 9, 10, 12(12.1 – 12.15)
UNIT V: Chapter 13, 14, 15

REFERENCE BOOK

Fundamentals of Computer Programming with C# - Svetlin Nakov , Kindle Edition

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM8P – PROGRAMMING IN C# LAB

1. Simple Programs

2. Command Line Arguments

3. Boxing And Unboxing

4. Control Structure

5. Branching And Looping

6. Methods

7. Arrays

8. String Handling

9. Class and Objects

10. Constructors and Destructors

11. Inheritance

12. Polymorphism

13. Operator Overloading

14. Implementing Interface

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM9 – PROGRAMMING IN VB.NET

UNIT I

Introduction to Microsoft.Net Framework: Introduction – Start Page – IDE Main Window – Class View Window – Object Browser – Code Window – Compiling the Code – Code Debugging – Developing a Simple VB.NET Console Application – Developing Simple VB.NET Project through Visual Studio IDE.

UNIT II

Variables Constants and Expressions: Value Types and Reference Types – variable Declaration and Initialization – Value Data Types – Reference Data Types – Boxing and Unboxing – Arithmetic Operators and expressions – Text Box Control   – Label Control – Button Control – Control Statements – IF Statement – Radio Buttons – Check Box – Group Box – List Box – Checked Listbox – Combo Box Control – Select ... Case – While – Do – For Statements.

UNIT III

Methods and Arrays – Types of Methods – Arrays – One Dimensional – Multidimensional Arrays – Jagged Arrays – Classes Properties and Indexes: Definition and Usage of Class – Constructor Overloading – Copy Constructor – Instance and Shared Class Members – Shared Constructor – Properties – Indexes, Inheritance and Polymorphism.

UNIT IV

Definition and Usage of Interfaces – Namespaces – Delegates – Events – Default Exception Handling Mechanism – User Defined Exception Handling Mechanism – Back Tracking – Throw Statement   – Custom Exception – Usage of Thread – Thread Class – Start() , Abort(), Join(), Sleep(), Suspend() and Resume Methods.

UNIT V

Database Connectivity: Advantages of ADO.NET – Managed Data Providers – Developing Simple Application – Creation of a Data Table – Retrieving Data from Tables – Table Updating.

TEXT Book

Visual Basic. Net, C. Muthu, Vijay Nicole Imprints Private Limited
UNIT I: Chapter 2
UNIT II: Chapter 3, 4
UNIT III: Chapter 5, 6, 7
UNIT IV: Chapter 8, 9, 10, 11
UNIT V: Chapter 12, 15

REFERENCE Book

The Complete Reference – Visual Basic . NET – Jefrey R.Shapiro , Tata McGraw Hill, 2002.

Part – A Answer all the Questions 10 X 2 = 20 Marks	Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question 1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM10P – PROGRAMMING IN VB.NET LAB

1. Console Applications.

2. Boxing and Unboxing

3. Control Structure

4. Controls

5. Arrays

6. Constructor

7. Inheritance

8. Polymorphism.

9. Events
10. Exception Handling
11. Thread
12. Database Connectivity

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM11 – OPERATING SYSTEMS

UNIT I
Evolution of Operating Systems – Types of Operating System – Different Views of OS – Design and Implementation of Operating Systems – I/O Programming Concepts.
UNIT II
Memory Management – Single Contiguous Allocation – Partitioned Allocation – Relocatable Partitions Allocations – Paged and Demand Paged Memory Management – Segmented Memory Management – Segmented and Demand Paged Memory Management – Overlay Techniques – Swapping.
UNIT III
Processor Management – Job Scheduling – Process Scheduling – Functions And Policies – Evolution of Round Robin Multiprogramming Performance – Process Synchronisation – Race Condition – Synchronization Mechanism – Deadly Embrace – Synchronisation Performance Considerations.
UNIT IV
Device Management: Techniques for Device Management – Device Characteristics – I/O Traffic Controller, I/O Scheduler, I/O Device Handlers – Virtual Devices – Spooling.
UNIT V
File Management: Simple File System – General Model of a File System – Physical and Logical File System.

TEXT BOOK
"Operating Systems" – E. Madnick & John J.Donavan, Tata McGraw Hill Publishing Co., Limited.
UNIT I: Chapter 1, 2
UNIT II: Chapter 3
UNIT III: Chapter 4
UNIT IV: Chapter 5
UNIT V: Chapter 6

REFERENCE BOOK
"System Programming and Operating Systems" – D.M. Dhamdhere, Tata Mcgraw Hill Publishing Co., Limited.

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCE1 – DATA COMMUNICATION AND NETWORKS

UNIT I
Data Communication – Networks – Protocols and Standard – Line Configuration – Topology – Transmission Mode – Categories of Networks – Internet Works.

UNIT II
The OSI Model – Functions of the Layers – TCP/IP Protocols Suite – Signals – Analog and Digital Signal – Data Transmission – Data Terminal Equipment – Data Circuit Terminals Equipment – Modems.

UNIT III
Transmission Media – Guided Media – Unguided Media – Transmission Impairments – Media Comparison – Multiplexing – FDM – TDM – WDM – Error Detection and Correction – Types of Error Detection – Vertical Redundancy Check (VRC) – Longitudinal Redundancy Check (LRC) – Cyclic Redundancy Check (CRC) – Check Sum – Error Correction

UNIT IV
Switching – Circuit Switching – Packet Switching – Message Switching – Networking and Internetworking Devices – Repeaters – Bridges – Routers – Gateways – Routing Algorithm – Distance Vector Routing – Link State Routing

UNIT V
Internet Working: TCP/IP Protocol Suite – Client Server Model – Domain Name System – File Transfer Protocol (FTP) – Simple Mail Transfer Protocol (SMTP) – World Wide Web (WWW) – Hyper Text Transfer Protocol (HTTP).

TEXT BOOK
        "Data Communications and Networking" –2nd Edition – Behrouz A Forouzan.
UNIT I: Chapter 1, 2(2.1 to 2.4)
UNIT I: Chapter 3(3.1 to 3.3), 4(4.1 to 4.6)
UNIT III: Chapter 7(7.1 to 7.3), 8(8.1 to 8.3), 9(9.1 to 9.7)
UNIT IV: Chapter 14(14.1 to 14.3), 21(21.1 to 21.8)
UNIT V: Chapter 25(25.1, 25.3, 25.5, 25.7, 25.9, 25.10)

REFERENCE BOOKS
1. Computer Networks – Tanenbaum.
2. Computer Networks –William Stallings.

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

NMEC2 – GENERAL HEALTH AND FITNESS

UNIT I
INTRODUCTION
- A. Health – Meaning and Definition
- B. Aspects of Health – Physical – Mental – Social – Spiritual Health
- C. Importance of Health
- D. Factors Influencing Health
- E. Need and Importance of Health

UNIT II
HEALTH PROBLEMS
- A. Disease – Communicable Disease – Types – Modes of Transmission – Causes – Symptoms – Prevention and Control – Malaria – Small Box – Tuberculosis – AIDS.
- B. Non – Communicable Disease – Hypertension – Stroke – Obesity – Coronary Heart Disease – Diabetes – Leukaemia – Epilepsy.
- C. Immunity – Meaning and Definition – Types – Immunization.
- D. BMI – Calculation and BMI Table – Hip / Waist Ratio.

UNIT III
HEALTH ORGANISATIONS AND AGENCIES
- A. Structure and Functions of National and International Agencies.
- B. WHO, UNICEF, IRCS, UNDP, World Bank, JRC, IMA, Family Planning Association of India, RRC.

UNIT IV
FITNESS AND WELLNESS
- A. Meaning and Definition of Fitness – Physical Fitness.
- B. Types of Physical Fitness – Health Related Physical Fitness – Skill Related Physical Fitness.
- C. Meaning and Definition of Fitness and Wellness.
- D. Physical Fitness Activities – Aerobic Exercise – Walking – Jogging – Running – Cycling – Swimming – Anaerobic Exercise – Slow and Fast Continuous Running – Resistance Training.
- E. Simple Physical Exercise Programme for Computer Users.

UNIT V
YOGIC SCIENCE
- A. Meaning and Definition of Yoga.
- B. Aim and Objectives of Yoga – Limbs of Yoga.
- C. Guidelines for Practicing Asana.
- D. Suryanamaskar and its Benefits.
- E. Pranayama and its Benefits – Nadi Suddhi – Nadi Sodhana – Surya Bhedana – Chandra Bhedana – Kapalabathi.
- F. Difference between Physical Exercise and Yoga Asana.

TEXT BOOKS :
1. Williams H.Melvin (1995), Life time fitness and wellness, Brow Pub. Dubugue.
2. Greenberg / Pargman – Physical Fitness (A wellness management)
3. A.K.Uppal – Physical Fitness (How to develop)
4. Swami Kuvalayananda, Asanas, Kaivalyadhama Lomavala, Pune.
5. B.K.S. Iyankar, Light on Yoga Harper Collins Pub. , Delhi.

Question Pattern
Answer any 5 out of 8 Questions
5 X 15 = 75 Marks

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

SBEC3 – PC HARDWARE TROUBLE SHOOTING

UNIT I

Micro Computer System: Introduction - Computer Organization-Number System and Codes-Memory-Arithmetic and Logical Unit- Control Unit-Instruction Prefetch – Interrupts -I/O Techniques-Device Controller-Error Deduction Techniques-Micro Processor -Personal Computer Concepts and Techniques.

UNIT II

Peripheral Devices: Introduction-Keyboard-CRT display Monitor- Printer –Magnetic Storage Devices- Floppy Disk Drive-Hard Disk Drive- Special Peripherals.

UNIT III

PC Hardware Overview: Introduction – Hardware BIOS – DOS Interaction – The PC Family – PC Hardware – Product Engineering – Inter Connection between Boxes – Inside the System Box – Mother Board Logic – Memory Space – IO Port Addresses – Wait State – Interrupts – IO Data Transfer – DMA Channels

UNIT IV

Compute Faults – Nature of Faults – Types of Faults – Diagnostic Programs and Tools – Microprocessor and Firmware- bus fault- Fault Elimination Process-Fault Diagnosis-Fault Rectification.

UNIT V

Trouble Shooting Level**:** PC Diagnostic Software - Mother Board Problem Diagnosis - Printer Interface Problem - Display Adapter Problem - Circuit Tips-Trouble Shooting Hints.

TEXT BOOK

"IBM PC AND CLONES", Govindaraja,TataMcGrawHill Edition

      Unit I : Chapter 1
      Unit II : Chapter 2
      Unit III : Chapter 3
      Unit IV : Chapter 14
      Unit V : Chapter 14

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM12 – DATABASE SYSTEMS

UNIT I

Introduction – File and Database System – Data Abstraction – Instances and Schemas – Database Languages – Database System Structure – Database Administrator.

UNIT II

Data Models – E –R – Diagram – Key Constraints – Extended ER Features – ER Diagram with Relationships – Aggregate Functions – Relational Algebra: Fundamental Operations.

UNIT III

SQL – Data Definition – Queries in SQL – Nested Sub Queries – Modification of the Database – Views – Joined Relations – Data Definition Language – Embedded SQL .

UNIT IV

Normalization – Types of Normalization – File Organization – Organization of Records in Files – Storage Structure of Object Oriented Database – Hashing Techniques: Static Hashing – Dynamic Hashing

UNIT V

Concurrency Control – Lock Based Protocols – Time Stamp Based Protocols – Validation Based Protocols – Multiple Granularity – Deadlock Handling – Object Oriented Database – Object Oriented Data Model – Inheritance.

TEXT Book

Henry F. Korth Abraham Silberschatz , Database System Concepts , Fourth Edition McGraw Hill International Editions 2002.

       UNIT I: Chapter 1
       UNIT II: Chapter 2, 3
       UNIT III: Chapter 4
       UNIT IV: Chapter 7, 10, 11
       UNIT V: Chapter 14, 8

REFERENCE Book

1. James Martin , Computer Data Base Organization , Second Edition Prentice Hall.
2. C.J. Date, An Introduction to Database System, Seventh Edition, Pearson Education, New Delhi, 2002.

Part – A Answer all the Questions 10 X 2 = 20 Marks	Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question 1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

Subject Code :

CCM13P – RDBMS LAB

1. To Implement Data Definition Language
1.1. Create, Alter, Drop, Truncate a table.

1.2. To Implement Constraints.

    1.2.1. (A) Primary Key, (B) Foreign Key, (C) Check, (D) Unique, (E) Null, (F) Not Null, (G) Default, (H).Enable Constraints, (I) Disable Constraints, (J) Drop Constraints.

2. To Implementation On DML, TCL And DRL
2.1. (A) Insert, (B) Select, (C) Update, (D) Delete, (E) Commit, (F) Rollback, (G) Save Point, (I) Like'%', (J) Relational Operator.

3. To Implement Nested Queries & Join Queries
3.1. (A) Implementation of Nested Queries.

3.2. (B) (A) Inner Join, (B) Left Join, (C) Right Join (D) Full Join.

4. To Implement Views
4.1. (A) View, (B) Joint View, (C) Force View, (D) View With Check Option.

5. Control Structure
5.1. To Write a PL/SQL Block for Addition of Two Numbers.

5.2. To Write a PL/SQL Block for If Condition.

5.3. To Write a PL/SQL Block for If and Else Condition.

5.4. To Write a PL/SQL Block for Greatest of Three Numbers Using If and Else if.

5.5. To Write a PL/SQL Block for Summation of Odd Numbers Using For Loop.

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DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCM14 – MICROPROCESSOR AND ITS APPLICATIONS

UNIT I

Evolution of microprocessors – single chip microcomputers – Microprocessor applications – Programming Digital computers – Memory – Buses – Memory addressing capacity and CPU – microcomputers – Processor architecture – Intel 8085 – Instruction cycle – Timing diagram.

UNIT II

Instruction set of Intel 8085 – Instruction and data formats – Addressing modes – status flags – Intel 8085 instructions – Programming of microprocessors – Assembly language – Assemblers – stacks and subroutines – Macro.

UNIT III

Assembly language programming – Simple examples – Addition and subtraction of binary and decimal numbers – complement – shift – masking – Finding the largest and smallest numbers in a array – Arraigning a series of numbers – Sum of series of numbers – Multiplication – Division.

UNIT IV

Peripheral devices and interfacing – Address space partitioning – memory and I/O interfacing – Data transfer schemes – Interrupts of Intel 8085 – Interfacing memory and I/O devices – I/O ports – Programmable peripheral interface – Programmable counter / interval time

UNIT V

Microprocessor applications – Delay subroutines – Interfacing of 7 segment displays – Frequency measurement – Temperature measurement and control – Water level indicator – Microprocessor based traffic control.

TEXT BOOK

Fundamental of Microprocessors and Microcomputers – Badri Ram – fourth revised edition – Dhanpat Rai and sons – 1993.

UNIT I: Chapter 1,3

UNIT II: Chapter 4,5

UNIT III: Chapter 6

UNIT IV: Chapter 7

UNIT V: Chapter 9

REFERENCE BOOK

Microprocessor Architecture, Programming and applications with the 8085/8080A – Ramesh S. Gaonkar – Wiley Eastern – 1990.

Part – A Answer all the Questions 10 X 2 = 20 Marks		Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question	1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
	3,4 – II Unit	12a (or) 12b – II Unit	17 – II Unit
	5,6 – III Unit	13a (or) 13b – III Unit	18 – III Unit
	7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
	9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCE2 – SOFTWARE ENGINEERING

UNIT I

Introduction – Definitions – Size Factors – Quality and Productivity Factors – Managerial Issues – Planning a Software Project – Introduction – Defining the Problem – Developing a Solution Strategy – Planning the Development Process – Planning an Organizational Structure – Other Planning activities.

UNIT II

Software Cost Estimation: Software – Cost Factors – Software Cost Estimation Techniques – Specification Techniques Staffing – Level Estimation: Estimating Maintenance Costs.

UNIT III

Software Requirements Definition – Software Requirement Specification – Formal Specification Techniques – Languages and Processors for Requirements.

UNIT IV

Software Design – Fundamental Design Concepts – Modules And Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real Time and Distributed System Design – Test Plans – Milestones, Walkthroughs and Inspections – Design Guidelines.

UNIT V

Verification and Validation Techniques – Quality Assurance – Walkthroughs and Inspections – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification.

TEXT BOOK

 "Software Engineering Concepts" – Richard Fairley.
UNIT I: Chapter 1, 2
UNIT II: Chapter 3
UNIT III: Chapter 4
UNIT IV: Chapter 5
UNIT V: Chapter 7

REFERENCE BOOK

"Software Engineering: A practitioners approach" by Roger, S. Pressman McGraw Hill International Book Company.

Part – A Answer all the Questions 10 X 2 = 20 Marks	Part – B Internal Choice Type 5 X 5 = 25 Marks	Part – C Answer any 3 Questions 3 X 10 = 30 Marks
Question 1,2 – 1 Unit	11a (or) 11b – 1 Unit	16 – I Unit
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7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit

H.H. THE RAJAH'S COLLEGE(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Subject Code :

CCE3 – DATA MINING

UNIT I
Introduction: Data mining applications – Data mining techniques – Data mining case studies – The future of data mining – Data mining software

UNIT II
Classification: Introduction – Decision tree – Over fitting and pruning – Decision Tree rules – – Naïve bayes method – Estimation predictive accuracy of classification methods

UNIT III
Cluster analysis: Cluster analysis – Types of data – Computing distances–Types of cluster analysis methods – Partitioned methods–Dealing with large databases – Quality and Validity of cluster analysis methods – Cluster analysis software.

UNIT IV
Association rules mining: Introduction– Basics– Task and a naïve algorithm– Apriori algorithm – Mining frequent pattern without candidate generation (FP–growth) – Performance evaluation of algorithms.

UNIT V
Online Analytical Processing(OLAP): Introduction – OLAP – Characteristics of OLAP Systems –Motivations for Using OLAP – Multidimensional View and Data Cube – Data Cube Implementations – Data Cube Operations– Guidelines for OLAP Implementation – OLAP Software.

TEXT BOOK

 "**Introduction to Data mining with case studies**", G.K. Gupta, PHI Private limited, New Delhi, 2008.
UNIT I: Chapter 1
UNIT II: Chapter 3
UNIT III: Chapter 4
UNIT IV: Chapter 2
UNIT V: Chapter 8
Reference
REFERENCE BOOK

"Data warehousing and Data Mining" - B.S. Charulatha, S. Poonkuzhali, C.Saravanakumar, Charulatha Publications.

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7,8 – IV Unit	14a (or) 14b – IV Unit	19 – IV Unit
9,10 – V Unit	15a (or) 15b – V Unit	20 – V Unit