### B.Sc(CSM) – II
SECOND YEAR-THIRD SEMESTER EXAMINATION
For the Session 2015-16 & 2016-17
OUTLINE OF PAPERS

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### B.Sc(CSM) – II
SECOND YEAR-FOURTH SEMESTER EXAMINATION
For the Session 2015-16 & 2016-17
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Board of Studies Meeting Held on 20.12.14
CSM - 301: Operating System

Maximum Marks: 75
External Examination: 55
Internal Examination: 20

Maximum Time: 3 Hrs.
Minimum Pass Marks: 35%
Lectures to be delivered: 45-55

(A) Instructions for the Paper Setter
The question paper will consist of five sections A, B, C, D and E. Sections A, B, C and D will have two questions from the respective sections of the syllabus and will carry 10 marks each. Section E will have 5 short answer type questions which will cover the entire syllabus uniformly and will carry 3 marks each.

(B) Instructions for the Candidates
1. Candidates are required to attempt one question each from sections A, B, C and D and the entire section E.
2. Use of non-programmable scientific calculator is allowed

SECTION A
Introduction to operating System, its need and Operating system services, Introduction to various types of operating systems: Batch processing operating system, Multiprogramming operating system, Time sharing operating system, Multi tasking operating system, Distributed operating system, Network operating system, Real time operating system, Multi processor system and parallel processing.

SECTION B

SECTION C
Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation. Virtual Memory: Demand paging, Performance of demand paging, Page replacement, Page replacement algorithms, Thrashing.

SECTION D
For the Sessions 2015-16 & 2016-17

Text Book:


References:

5. Deitel & Deitel,”Operating System”. 

Board of Studies Meeting Held on 20.12.14
CSM - 302: Web Designing

Maximum Marks: 75
External Examination: 55
Internal Examination: 20

Maximum Time: 3 Hrs.
Minimum Pass Marks: 35%
Lectures to be delivered: 45-55

(A) Instructions for the Paper Setter

The question paper will consist of five sections A, B, C, D and E. Sections A, B, C and D will have two questions from the respective sections of the syllabus and will carry 10 marks each. Section E will have 5 short answer type questions which will cover the entire syllabus uniformly and will carry 3 marks each.

(B) Instructions for the Candidates

1. Candidates are required to attempt one question each from sections A, B, C and D and the entire section E.
2. Use of non-programmable scientific calculator is allowed

Section- A
Introduction to Internet: WWW, HTTP, Web pages, Web Browsers, URL, Search Engines.
Introduction to HTML: HTML tags and attributes, paired and unpaired tags, Text-formatting tags-bold, italic, underline, strike, superscript, subscript, font face, font size, font color.

Section- B
Marquee tag, Creating external and internal links, using images as links.
Tables: Table creation in HTML, Width of the Table and cells, cells spanning multiple row and columns, coloring cells, column specification, Presenting information in tables, table attributes.

Section- C
Frames: Introduction To Frames, Forms:introduction,form elements,different control types with input elements,button elements,text area elements,drop down list, action attributes and method attributes.

Section- D
Introduction to JavaScript, Script tag, declaring variables in JavaScript, operators in JavaScript, arithmetic operators, assignment operators, comparison operators, logical operators, conditional operators , Conditional statements, if statement, if-else statement, Introduction to Functions-Inbult and User defined functions, Events in JavaScript.

Text Book:
1. HTML 4.0 Unleashed by Rick Dranell; Tech Media Publications
References:
1. Teach Yourself HTML 4.0 with XML, DHTML and Java Script by Stephanie, Cottrell, Bryant; IDG Books India Pvt. Ltd., New Delhi
2. Java Script in 24 hrs Tech Media Publication
CSM-303: Software Lab-III
(based on paper BCM-302)

Total Practical Sessions: 40-50 Hrs
External Examination: 50
Time Allowed: 3 Hours

Max Marks: 50
Min. Pass: 35% Marks

Lab Course:

The exercises will be based on the syllabus of the paper CSM-302(Web Designing).

The breakup of marks for the practical will be as under
Practical File Evaluation 10 marks
Viva Voce 20 marks
Program Development and Execution 20 marks
CSM - 401: Data Structures

Maximum Marks: 75
External Examination: 55
Internal Examination: 20
Maximum Time: 3 Hrs.
Minimum Pass Marks: 35%
Lectures to be delivered: 45-55

(A) Instructions for the Paper Setter

The question paper will consist of five sections A, B, C, D and E. Sections A, B, C and D will have two questions from the respective sections of the syllabus and will carry 10 marks each. Section E will have 5 short answer type questions which will cover the entire syllabus uniformly and will carry 3 marks each.

(B) Instructions for the Candidates

1. Candidates are required to attempt one question each from sections A, B, C and D of the question paper and the entire section E.
2. Use of non programmable scientific calculator is allowed

Section- A
Data Structure: Introduction to data structure and algorithm, complexity of an algorithm.
Algorithm analysis: Time space trade off algorithms and Big O notation, Complexity.
Arrays: Introduction, one dimensional and multidimensional arrays, memory representation of arrays, operations on arrays, sparse arrays and sparse matrices and their implementation

Section-B
Stacks: Introduction; Operation on stacks; Implementation of stacks
Application of stacks: matching parenthesis, evaluation of arithmetic expressions, conversion from infix to postfix, recursion.
Queues: Introduction, operation on queues, circular queue, memory representation of queues, dequeue, priority queues, application of queues.

Section-C
Linked List: Introduction to operation on linked list, circular linked list, doubly linked list, header linked list, implementation of linked list, application of linked lists.
Trees: Introduction to Trees, Binary Tree, Binary Search Tree, Introduction to Heaps

Section-D
Graphs: Introduction
Graph: Graph terminology, Memory Representation of Graphs in memory: Operations performed on graphs, Application of graphs.
Searching: Linear search, Binary Search.
Sorting: Selection Sort, Insertion Sort, Merge Sort, Shell Sort, Radix Sort, Quick Sort and Heap Sort.

Text Book:

For the Sessions 2015-16 & 2016-17

References:

2. Loomis, “Data and File Structures”,

Board of Studies Meeting Held on 20.12.14
CSM - 402: DBMS with MySQL

Maximum Marks: 75

External Examination: 55
Internal Examination: 20

Maximum Time: 3 Hrs.
Minimum Pass Marks: 35%
Lectures to be delivered: 45-55

(A) Instructions for the Paper Setter
The question paper will consist of five sections A, B, C, D and E. Sections A, B, C and D will have two questions from the respective sections of the syllabus and will carry 10 marks each. Section E will have 5 short answer type questions which will cover the entire syllabus uniformly and will carry 3 marks each.

(B) Instructions for the Candidates
1. Candidates are required to attempt one question each from sections A, B, C and D and the entire section E.
2. Use of non programmable scientific calculator is allowed

SECTION A
Introduction to DBMS: Basic concepts of Database and DBMS, Traditional Approach to Information Processing: Characteristics and Limitations, Components of DBMS Environment, Database Schema and Instance. Advantages and Disadvantages of DBMS. Three Level architecture of DBMS, Mapping between different levels, Data Independence, Keys: Types of keys.

SECTION B
Data Models: Definition, Object Based Logical Model: E-R model: Definition, Entity and Relationship, cardinality of a relationship, E-R Diagram Notations, Modeling using E-R Diagrams, Aggregation, Generalization, Specialization, Record Based Logical Models: Hierarchical Model, Network Model and Relational Model, Comparison between Hierarchical, Network and Relational Model.

SECTION C
Integrity: Domain, Entity and Referential, Normalization: Definition, Need, Functional Dependency, Full Functional Dependency, Partial Dependency, Transitive dependency, Multivalued Dependency, Join Dependency, Types of Normal Forms, Merits and Demerits of Normalization.

SECTION D
Text Books:
3. C.J. Date, ” An Introduction to Database Systems”, Pearson Education.

References:
1. Infosys Campus Connect Foundation Program Vol-2, Education & Research Department, Infosys Technologies Ltd, Bangalore.
For the Sessions 2015-16 & 2016-17

CSM-403: Software Lab-IV (based on paper CSM-402)

Total Practical Sessions: 40-50 Hrs
External Examination: 50

Max Marks: 50
Time Allowed : 3 Hours
Min. Pass: 35% Marks

Lab Course:

The exercises will be based on the syllabus of the papers CSM -402(DBMS with MySQL).

The breakup of marks for the practical will be as under
Practical File Evaluation 10 marks
Viva Voce 20 marks
Program Development and Execution 20 marks