



BOS Minutes of the Meeting
VASAVI COLLEGE OF ENGINEERING (Autonomous)

9-5-81, Ibrahimbagh, Hyderabad-500031, Telangana, India

(Sponsored by Vasavi Academy of Education)

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DEPARTMENT OF INFORMATION TECHNOLOGY

Date: 24.12.2014

Minutes of the meeting of Board of Studies, Information Technology department, held at 11.00 AM on 24.12.2014 (Wednesday) at the Department of Information Technology, Vasavi College of Engineering, Ibrahimbagh, Hyderabad.

Members Presents

Dr. N. Vasantha	Chairman & Head
Dr. K. Sri Rama Murthy,	OU nominee
Prof. S. Ramachandram	Subject expert
Dr. Asha Rani	Subject expert
Mr. Raju Kanchibhotla	Industry representative
Mr. P. Vijay Kumar	PG alumnus
Mrs. S. Aruna	Faculty members
Ms. S. Rajyalaxmi	
Ms. Ch. Pavani	
Mr. K. Shyam sunder Reddy	
Mr. G. Rajashekhar	
Mr. M. Vishnu Chaitanya	
Ms. R. Bhawana	

The following members of Board of Studies could not attend the meeting

1. Prof. S. Ramachandram
2. Mr. P. Vijay Kumar
3. Ms. S. Rajyalaxmi

Chairman welcomed the members, gave an introduction to the IT department and the faculty.

The following points were discussed

1. Discussion on Course structure, scheme of examination for 4 years.
2. Discussion on first year B.E theory syllabus.
3. Discussion on B.E theory and laboratory syllabus for all the 4 years.

In this discussion the members suggested the following

I-Year I-Semester

1. Physics lab in 1st year 1st semester and 1st year 2nd semester can be combined into one lab in a single semester.
2. Chemistry lab in 1st year 1st semester and 1st year 2nd semester can be combined in to one lab in a single semester.
3. Instead of title "Programming in C & Problem Solving" in I-Year I-Semester, it can be changed to "Introduction to computing" or "Problem solving using computers".

I-Year II-Semester

1. In the IT Workshop syllabus, the points 3,4,5 & 6 can be delivered in the form of a project based learning, point 12 can be removed & point 13 can be delivered in form of design based learning or with video sessions or with industrial visits. Equal weightage should be given for software and hardware in terms of number of sessions.

II-Year I-Semester

1. The title "Finishing School" can be replaced with a specific title indicating the contents of the course.
2. Discrete Mathematics can be shifted to 2nd Year 2nd Semester.

II-Year II-Semester

1. Digital Instrumentation Control is not relevant in this semester; it can be moved to 3rd year 1st semester.
2. Electronic Communication Techniques and Data Communication can be combined as a single subject with the title "Communication Systems".
3. OOPS using Java and Web Technology theory subjects can be removed and extra weightage can be given in the form of separate Java lab and Web Technologies lab with more number of sessions.

III-Year I-Semester

1. Software Engineering subject can be moved to 2nd year 2nd semester.

III-Year II-Semester

1. Information Security can be moved to 4th year 1st semester and replaced by Embedded Systems.
2. Projects related to Embedded Systems can be give in Mini Project/Simulation lab.

IV-Year I-Semester

1. In the place of Embedded Systems lab, Mini Project can be replaced.
2. DWDM can be replaced with Big Data Analytics

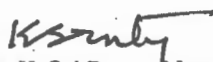
IV Year II- Semester


1. The number of credits for the main project can be increased from 6 to 12 credits.

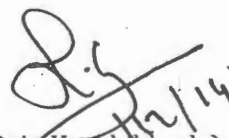
Resolutions: The following resolution have been made in the meeting

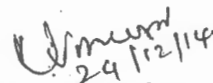
1. $\frac{1}{4}$ B.E IT Workshop syllabus proposed under autonomy have been discussed and approved with minor modifications.
2. $\frac{1}{4}$ BE II-Semester Object Oriented Programming using C++ and C++ Programming Lab is approved.
3. The above suggestions from the members will be put forward for discussion at the college level.

Meeting concluded with vote of thanks.


(Dr. K. Sri Rama Murthy)
OU nominee


(Dr. Asha Rani)
Subject expert


(Mr. Raju Kanishkhotla)
Industry representative


(Dr. N. Vasantha)
Chairman & Head

VASAVI COLLEGE OF ENGINEERING
(AUTONOMOUS)
9-5-81, Ibrahimbagh, Hyderabad-500031, Telangana State
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE)
PROGRAMMING IN 'C' & PROBLEM SOLVING
(Common to all branches of 1/4 B.E.)
SYLLABUS FOR BE 1/4 - FIRST SEMESTER

Instruction : 3+1 Periods per week	Semester End Exam Marks : 70	Subject Reference Code : CS1140
Credits : 3	Sessional Marks : 30	Duration of Semester End Exam: 3Hrs

COURSE OBJECTIVES	COURSE OUTCOMES
The course will enable the students to:	<i>At the end of the course students should be able to:</i>
<p>☐ Acquire necessary skills to design solution for a given problem using C language.</p>	<ol style="list-style-type: none"> 1. draw flowcharts and write algorithms for a given problem 2. choose appropriate data types for writing programs in C language 3. design programs involving input output operations, decision making and looping constructs 4. design modular programs 5. use pointers for dynamic memory management

- UNIT-I :** **Introduction to computers:** Computer Systems, Computing Environments, Computer Languages, Creating and Running Programs, System Development, Flowcharts. Number Systems (Binary, Octal, Decimal and Hexadecimal), Representation of numbers (fixed and floating point).
Introduction to C Language- Background, C Programs, Identifiers, Types, Variables, Constants, Input / Output, Expressions, Precedence and Associativity, Side Effects, Evaluating Expressions, Type Conversion, Statements, Bitwise Operators.
- UNIT-II :** **Selection:** Logical Data and Operators, if... else, switch statements, Standard Functions.
Repetition: Loops, while, for, do-while statements, Loop examples, break, continue, goto.
Functions: Designing Structured programs, Functions Basics, User Defined Functions, Inter Function Communication, Standard Functions, Scope, Storage Classes-Auto, Register, Static, Extern, Scope Rules and Type Qualifiers.
- UNIT-III :** **Recursion-**Recursive Functions, Pre-processor Commands.
Arrays: Concepts, Using Arrays in C, Inter-Function Communication, Array Applications, Two - Dimensional arrays, Multidimensional Arrays, Linear search and Binary Search, Selection Sort and Bubble Sort.
- UNIT-IV :** **Pointers:** Introduction, Pointers for Inter-Function Communication, Pointers to Pointers, Compatibility, LValue and RValue, Arrays and Pointers, Pointer Arithmetic and Arrays, Passing on Array to a Function, Memory Allocation Functions, Array of Pointers, Programming Applications, Pointers to void, Pointers to Functions, Command line arguments.
Strings - Concepts, C Strings, String Input / Output, Functions, Arrays of strings, String Manipulation Functions.
- UNIT-V :** The Type Definition (type def), Enumerated Types.
Structure: Definition and Initialization of Structures, Accessing Structures, Nested Structures, Arrays of Structures, Structures and Functions, Pointers to Structures, Self referential Structures, Unions
Input and Output: Files, Streams, Standard Library Input Output Functions, Character Input Output Functions.

M. A. Gai
24/10/24

K. S. S.

R. J.
24/10/24

Learning

Resources :

1. B.A.Forouzan & Richard F.Gilberg, "A Structured Programming Approach using C" 3rd Edition, Cengage Learning, 2013
2. Brian W. Kernighan and Dennis M. Ritchie, "The C Programming Language" 2nd Edition, Prentice-Hall, 2006
3. Steve Oualline, "Practical C Programming " 3rd Edition, O'reilly Press.
4. Jeri R. Hanly, Elliot B. Koffman, " Problem Solving and Program Design in C", Pearson Education, 2007
5. E.Balagurusamy, "Programming in ANSI C", TMG
6. Gottfried, "Programming with c" Third Edition, TMH.

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'C' PROGRAMMING LABORATORY
(Common to all branches of 1/4 B.E.)
SYLLABUS FOR BE 1/4 - FIRST SEMESTER

Instruction : 3 Periods per week	Semester End Exam Marks : 50	Subject Reference Code : CS1141
Credits : 2	Sessional Marks : 25	Duration of Semester End Exam : 3 Hours

COURSE OBJECTIVES	COURSE OUTCOMES
The course will enable the students to:	<i>At the end of the course students should be able to:</i>
Graduates will possess necessary skills to implement solution for a given problem using C language.	1. implement and debug programs in C language 2. select appropriate data type to develop programs 3. apply repetition control statements, single and multiple selection statements, to write programs 4. implement modular programming solutions to problems 5. demonstrate the use of pointers for dynamic memory management

1. Finding maximum and minimum of given set of numbers, Finding roots of quadratic equation
2. Sin x and Cos x values using series expansion.
3. Conversion of binary to decimal, octal, hexadecimal and vice versa
4. Generating Pascal Triangle
5. Recursion: Factorial, Fibonacci, GCD
6. Matrix addition and multiplication using arrays, Linear search and Binary Search.
7. Bubble sort, Selection sort
8. Programs on Pointers: pointer to arrays, pointer to functions
9. Functions for string manipulations
10. Programs on Structures and Unions
11. Finding the no: of characters, words and lines of given text file
12. File handling programs

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING(CSE)
OBJECT ORIENTED PROGRAMMING USING C++
(Common to all branches of 1/4 B.E)
SYLLABUS FOR BE 1/4 – SECOND SEMESTER

Instruction : 3+1 Periods per week	Semester End Exam Marks : 70	Subject Reference Code : CS1240
Credits : 3	Sessional Marks : 30	Duration of Semester End Exam : 3HRS

COURSE OBJECTIVES	COURSE OUTCOMES
The course will enable the students to :	At the end of the course students should be able to :
Acquire necessary skills to design solution for a given problem using C++ language.	<ol style="list-style-type: none"> 1. choose appropriate data types for writing programs in C++ language 2. design programs involving Input output operations, decision making and looping constructs 3. create C++ classes using appropriate encapsulation and design principles 4. design programs using C++ features such as overloading, dynamic memory allocation, inheritance, polymorphism, file I/O, templates, exception handling 5. describe the advantages of using linked list and design C++ functions for different operations on linked list data structure

UNIT-I : **Introduction to C++:** Procedure oriented Programming, Object oriented programming paradigm, Basic concepts of object oriented programming, Benefits and Applications of OOP.

C++ Basics: Variables and Assignments, Input and Output, Data Types and Expressions, Simple Flow of control.

UNIT-II : **Functions:** Call by value, Call by reference, Parameters using procedural abstraction, Testing and Debugging functions. I/O streams as an introduction to classes and objects.

Arrays: Introduction to Arrays, Arrays in functions, Programming with arrays and multidimensional arrays.

Defining classes: Structures, Classes, Abstract data types

UNIT-III : Strings, Pointers and Dynamic Arrays, Recursion, Constructors, Destructors, Copy Constructors.

Static Polymorphism: Function and Operator overloading, Friend functions.

UNIT-IV : **Inheritance:** The notion of Inheritance, Derived classes, overriding, Virtual base class

Runtime polymorphism, virtual functions

Function templates, Class templates

UNIT-V : **Exception handling:** Exception-handling basics, Programming techniques for exception-handling

Pointers and Linked lists: Nodes and Linked lists, Implementation of stacks and queues using arrays and linked lists, operations on linked lists, inserting a node, deleting a node, searching for a node.

Learning Resources :

1. Walter Savitch, "Problem solving with C++", Sixth Edition, Pearson Education Publishing, 2009.
2. Behrouz A.Forouzan, Richard F. Gilberg, " Computer Science, A Structured approach using C++", 2 edition, Cengage Learning, 2010
3. E Balagurusamy, "Object-Oriented Programming with C++", second edition, Tata Mc-GrawHill
4. S.B.Lippman ., J Lajoie, "C++ Primer" 3rd Edition, AW Publishing Company, 2007
5. Bjarne Stroustrup, "The C++ Programming Language" Third Edition, Pearson Education.

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 9-5-81, Ibrahimbagh, Hyderabad-500031, Telangana State
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING(CSE)
C++ PROGRAMMING LAB
 (Common to all branches of 1/4 B.E)
SYLLABUS FOR BE 1/4 – SECOND SEMESTER

Instruction : 3 Periods per week	Semester End Exam Marks : 50	Subject Reference Code : CS1241
Credits : 2	Sessional Marks : 25	Duration of Semester End Exam : 3HRS

COURSE OBJECTIVES	COURSE OUTCOMES
The course will enable the students to :	At the end of the course students should be able to :
Acquire necessary skills to implement solution for a given problem using C++ language.	<ol style="list-style-type: none"> 1. implement and debug Programs in C++ language 2. select appropriate data type to develop C++ programs 3. apply repetition control statements, single and multiple selection statements to write programs 4. demonstrate C++ features such as overloading, dynamic memory allocation, inheritance, polymorphism, file I/O, templates, exception handling 5. implement C++ functions like insert, delete, search and display on linked list data structures.

1. Implementation of matrix and complex numbers using classes.
2. Programs using constructors, destructors and copy constructors.
3. Programs on dynamic memory allocation for arrays.
4. Programs on static data members, string manipulations.
5. Programs on friend class.
6. Programs on inheritance.
7. Programs on function overloading, operator overloading.
8. Programs on virtual functions, dynamic polymorphism.
9. Programs on templates, exception handling.
10. Programs on bubble sort, selection sort and insertion sort.
11. Program on operations in a singly linked list.
12. Program on implementation of stacks and queues using arrays and linked list.

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R. J.
24/12/14

IT WORKSHOP (B.E. 1/4 IT branch, II-Semester)

Instruction: 3 Periods / week	Semester End Exam Marks : 50	Subject Reference Code : IT1281
Credits : 2	Sessional Marks : 25	Duration of Semester End Exam : 3 Hours

Course Objectives	Course Outcomes
The course will enable the students to:	At the end of the course student will be able to:
<ol style="list-style-type: none"> 1. Students should be able to assemble different components of the system, install Operating system with partitions & anti-virus software and work with various productivity tools such as Microsoft office & Photoshop. 2. Students should be able to use different measuring instruments like multi-meter, oscilloscope, function generator and power supplies etc. in electronic laboratories. 3. Students should be able to identify different electronic components like R, L, C, Transistors, Integrated Circuits (Linear and Non-Linear) 4. Students should have practice in soldering and desoldering. 5. Students should be able to prepare a layout for a given circuit using CAD tools. 	<ol style="list-style-type: none"> 1. Assemble various components of the Computer system 2. Format the Hard disk, Create Partitions and Install Operating System and anti-virus 3. Use Productivity tools to design documentation and illustrate a case study 4. Design a static web page using HTML & CSS 5. Design a brochure using Photoshop for a given case study 6. Identify and use the different electronic components, measuring instruments 7. Prepare circuit layouts using CAD Tools

PC Hardware

1. **System Assembly** (identify and describe the relationships and role of the components of the logical diagram of computer. RAM, ROM, BIOS, input, output, storage).
Relate the logical diagram of a computer system to the physical system identifying physical components of a computer and describing their purpose (eg. The processor, memory chips, motherboard, disk drives, and controller card such as AGP board, network cards, sound card, as well as parallel and serial ports etc)

System Software

2. Load the OS with partitions for latest Windows and Linux, Configure for Network connection (TCP/IP).
Be able to use basic Commands in Linux and DOS

Productivity Tools

3. **MS Word:** Create documents with standard formatting commands, single/ multi column, insert pictures/ objects, drawing, hyperlinks, header/footer, tables No. macros
4. **Ms Power Point:** Create presentations with preset animations using different layouts, backgrounds, slide master, insert pictures/objects, drawings, hyperlinks, header/ footer , tables
5. **Ms Excel:** Creating worksheets with various kinds of data, making charts, conditional formatting, awareness of the various functions- statistical, date/time, math/trig etc, ability to explore (help) and use these functions if need be, demonstration through some common functions like sum, average, standard deviation
6. **MS Access:** Create a new database, Create a Table in the Database, Entering data into the Table, Sort the table, Move & Deletion of Rows and Columns, Query the table ,Create a Form and Report on the Table

7. **HyperText Markup Language (HTML) & Cascading Style Sheet (CSS):** Should be able to create their web-page (title, text, frames, and hyperlinks to some sites, pictures, lists, tables, fonts, and colours) without using any web authoring tools
8. **Photoshop:** The use of Toolbar, Colour correction, Touch ups and enhancements, Basic drawing with Pen tool

Search Engines and Cyber Hygiene

9. Know what search engines are and how to use the search engines
Install an anti -virus software, configure personal firewall and windows update on the computer

Electronics Lab Fundamentals

10. Study of measuring and diagnostic instruments like multi-meter, function generator, oscilloscope, power supplies etc.,

Activities

- Study the function of each instrument and their applications.
- Demonstration of the usage of the instruments by conducting simple experiments.

11. Study of different electronic components R, L, C, Transistors, ICs (Linear & Non-Linear ICs), using their Data Sheets, Colour Code Charts etc.

12. Soldering and Desoldering practice

Activities

- Using appropriate soldering iron or soldering system, the components are to be de-soldered first, clean the leads and re-solder the same using proper solders and fluxes.
- Check for the dry solders and shorts, if any and make sure that the circuit performance is the same as that of the original circuit.

13. Preparation of layout for a given circuit schematic using a CAD tool.

Activities

- Study of a CAD tool.
- Prepare the layout using the tool.
- Take print of the layout.
- Transfer the layout onto the single sided PCB.
- Etch the conducting pattern and drill the holes for mounting and fixing the components.
- Solder the components/bases permanently to the PCB.
- Check the performance of the circuit.

Suggested Reading:

1. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, 2005
2. IBM PC And Clones: Hardware, Trouble shooting And Maintenance By Govindarajulu, Tata McGraw-Hill, 2008
3. Introduction To Computers By Peter Norton , Tata McGraw-Hill ,6th edition
4. PC Hardware and A+ Hand book By J. Chase PHI (Microsoft)
5. Data Sheets and Manuals of the Electronic Components and Instruments respectively.

Note: Depending on the amount of work done in each activity and submission of the record, marks / grade will be awarded.

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