



B.L.D.E. Association's

**S.B.ARTS & K.C.P SCIENCE COLLEGE
VIJAYAPUR**

M.Sc. Computer Science

A REPORT ON

Bridge Course

For

M.Sc (CS)-I Sem

2015-2016

Resource Persons

Prof(Smt) S.D.Patil

Prof. M. S.Jevoor

Prof (Smt) R.D.Joshi

Prof S.V. Vambase

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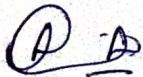
**S.B.ARTS & K.C.P SCIENCE COLLEGE
VIJAYAPUR**

M.Sc(CS) Programme

Date: 02/08/2015

NOTICE

It is here by Notice to all the M.Sc.(CS) I Semester students that there will be Bridge Course from 04-08-2015 to 06-08-2015 so all of you should attend and get the benefit of the course.



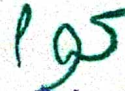
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S.B.Arts and K.C.P Science College, Bijapur
M.Sc(CS) Programme
M.Sc(CS)- I Semester 2015-2016
Bridge Course Time Table

Date	Time	Subject
4/8/2015	11.00 am to 1.00 pm	Operating System
5/8/2015	11.00 am to 1.00 pm	C Programming
6/8/2015	11.00 am to 1.00 pm	The Basics of Software Design


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Why to Learn Operating System?

An Operating System (OS) is an interface between computer user and computer hardware. An operating system is software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.

Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc.

Following are some of important functions of an operating System.

- Memory Management
- Processor Management
- Device Management
- File Management
- Security
- Control over system performance
- Job accounting
- Error detecting aids
- Coordination between other software and users

Applications of Operating System

Following are some of the important activities that an Operating System performs –

- **Security** – By means of password and similar other techniques, it prevents unauthorized access to programs and data.
- **Control over system performance** – Recording delays between request for a service and response from the system.
- **Job accounting** – Keeping track of time and resources used by various jobs and users.
- **Error detecting aids** – Production of dumps, traces, error messages, and other debugging and error detecting aids.
- **Coordination between other software's and users** – Coordination and assignment of compilers, interpreters, assemblers and other software to the various users of the computer systems.

Facts about C

- C was invented to write an operating system called UNIX.
- C is a successor of B language which was introduced around 1970
- The language was formalized in 1988 by the American National Standard Institute (ANSI).
- By 1973 UNIX OS almost totally written in C.
- Today C is the most widely used System Programming Language.
- Most of the state of the art software have been implemented using C

Why to use C?

C was initially used for system development work, in particular the programs that make-up the operating system. C was adopted as a system development language because it produces code that runs nearly as fast as code written in assembly language. Some examples of the use of C might be:

- Operating Systems
- Language Compilers
- Assemblers
- Text Editors
- Print Spoolers
- Network Drivers
- Modern Programs
- Data Bases
- Language Interpreters
- Utilities

C Program File

All the C programs are written into text files with extension ".c" for example *hello.c*. You can use "vi" editor to write your C program into a file.

This tutorial assumes that you know how to edit a text file and how to write programming instructions inside a program file.

C Compilers

When you write any program in C language then to run that program you need to compile that program using a C Compiler which converts your program into a language understandable by a computer. This is called machine language (i.e. binary format). So before proceeding, make sure you have C Compiler available at your computer. It comes along with all flavors of Unix and Linux.

If you are working over UNIX or Linux then you can type `gcc -v` or `cc -v` and check the result. You can ask your system administrator or you can take help from anyone to identify an available C Compiler at your computer.

If you don't have C compiler installed at your computer then you can use below given link to download a GNU C Compiler and use it.

The Basics of Software Design

In the field of software development, there are many stages of planning and analysis before the project is finalized and development can formally begin. Design always comes before development and functional design makes coding and maintenance very simple. There are seven main principles to keep in mind in the **design model** in **object-oriented programming (OOP)**:

- Abstraction
- Patterns
- Separation of Data
- Modularity
- Data Hiding
- Functional Independence
- Refactoring

Each of these is an essential part of the design model and must be met if one wishes to develop a successful software system. Each principle must be considered and thoroughly reviewed before the testing phase of the software can begin.

Abstraction

Abstraction is the process of hiding complex properties or characteristics from the software itself to keep things more simplistic. This allows for a much higher level of efficiency for complex software designs since it allows the developers to list out only the necessary elements or objects required. In this principle, the developer will define the properties, type of functions, and the interface for each of said objects in the project. The developers will be able to hide the complicated and unnecessary details in the background while retaining core information in the foreground.

Patterns

We use **patterns** to identify solutions to design problems that are recurring and can be solved reliably. A pattern must be guaranteed to work so that it may be reused many times over, but it also must be relevant to the current project at the same time. If the said pattern does not fit into the overall design function of the current project, it might be possible to reuse it as a guide to help create a new pattern that would be more fitting to the situation.

There are three main patterns:

- **Architectural** - High-level pattern type that can be defined as the overall formation and organization of the software system itself.
- **Design** - Medium-level pattern type that is used by the developers to solve problems in the design stage of development. Can affect how objects or components interact with one another.
- **Idioms** - Low-level pattern type, often known as **coding patterns**, they are used as a workaround means of setting up and defining how components will be interacting with the software itself without being dependent on the programming language. There are many different programming languages all with different syntax rules, making this a requirement to function on a variety of platforms.


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M.Sc(CS) Programme

Bridge Course

S.No	Name of Students	4/8/2015	5/8/2015	6/8/2015
1	AKSHATA. S. BIDANUR			
2	ANJANADEVILS.DHABADE			
3	GEETA BIRADAR	G.S. Biradar		G.S. Biradar
4	PREETI . F. CHAVADI			
5	RAJANI . S . BHAVIKATTI	R.S. Bhavikatti	R.S. Bhavikatti	
6	RASHMI R.KULKARNI	R.P. Kulkarni	R.P. Kulkarni	R.P. Kulkarni
7	SANTOSH . S . BIRADAR			
8	SUTAR KASAPPA BALWANT			
9	SWETA BIRADAR			

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