

# PROJECT DIRECTIVES

Institute of Information Technology & Management, New Delhi

Academic Circular

17<sup>th</sup> January, 2011

## PROJECT WORK METHODOLOGY: BCA SEMSTER VI STUDENTS (BCA-354)

### Objective

1. Students of Semester VI of BCA are to carry out a software project as part of curriculum. At the end of the semester the students are to submit a written project report to be forwarded to GGSIP University. The objective of this Academic Circular is to standardise the format of submission of the project report and to lay guidelines to conduct the project. **This project work is the training for conceiving an idea, developing application software and writing a Technical Report using theoretically correct technique (s).**

### University Scheme for Project

2. As per the syllabi of BCA (Paper No BCA-354), students of Semester VI are to write a project report comprising of 5 credits. The project report has two components, viz.

- (a) External : **Project** (60 Marks), where a written report is to be submitted. It involves external viva and presentation.
- (b) Internal : **Project** (40 Marks), it includes continuous evaluation from idea generation to final presentation.

### Scope of the Project

3. It is partly the responsibility of the student to find a relevant topic for his/her project and decide it in consultation with the guide allocated to him/her. The project work shall be an application development in a language/platform that the student has learnt during the previous semesters. It shall be an in-house development. **Each student is required to carry out the independent work and submit the report individually. ANY PREVIOUS WORK OR BORROWED REPORT WILL BE SUMMARILY REJECTED AND IN ALL CASES OF REJECTION THE WORK IS TO BE REPEATED AFRESH.**

### Proposal

4. The project proposal should be about one/two page long and must be submitted in writing to your respective guide. The format of the proposal is attached as **Appendix-A**. **All students are required to submit the proposal by 28<sup>th</sup> January'2011.**

## Final Report

5. The Guidelines for methodology to be adopted for conducting the project is attached as **Appendix-B**. The format of the project report is attached as **Appendix-C**. **All students are to adhere to these guidelines.**

## Schedule of Submissions

6. Students are required to strictly follow the schedule given below:

### Schedule For BCA (First Shift)

To be Completed by Date	Activity	Marks Allotted	Remarks
21 <sup>st</sup> January'11	Brief to students for allocation of Guides and Project Methodology Discussion.	-	-
28 <sup>th</sup> January'11 (1 Week)	Submission of Project Proposal to the respective guides & finalisation of title, objectives, scope, platform & methodology.	-	As per Appendix-A. (Synopsis)
7 <sup>th</sup> February'11 (1 Week)	Submission of Project Requirement Details along with project objectives, scope, platform & methodology.	5	As per Appendix-B. (CH-1)
18 <sup>th</sup> February'11 (2 Weeks)	Completion of Systems Analysis & System Design phase and submission to the respective guides.	5	As per Appendix-B. (CH-2, CH-3)
18 <sup>th</sup> March'11 (3 Weeks)	Completion of Systems Development Phase (With First Demo of Project Execution )	-	As per Appendix-B. (Ch-4)
8 <sup>th</sup> April'11 (3 Weeks)	Final Project Softcopy & Coding Submission	10	-
23 <sup>rd</sup> April' 11 (1 Week)	First Draft of the Report to be submitted to the respective guides.	-	As per Appendix-B & C. (Compile All Chapters)
29 <sup>th</sup> April'11 (1 Week )	Discussion with guides and return of corrected report.	5	As per Appendix-B & C.
2 <sup>nd</sup> -7 <sup>th</sup> May' 11 (1 Week)	Submission of Final Report (One hard copy & CD) to the respective guides and internal presentation to the committee and Viva.	15	A Power Point Presentation. With (Project EXE File demonstration)
9 <sup>th</sup> -14 <sup>th</sup> May'11 (Tentative Dates)	External Viva before the external examiner.	60	A Power Point Presentation. (With Project Execution Demonstration )
<b>Total Marks</b>		<b>100</b>	

**Schedule For BCA (Second Shift)**

<b>To be Completed by Date</b>	<b>Activity</b>	<b>Marks Allotted</b>	<b>Remarks</b>
<b>21<sup>st</sup> January 2011</b>	Brief to the students about the allocation of Guides and Project Methodology Discussion.	-	-
<b>28<sup>th</sup> January 2011</b>	Submission of Project Proposal/Synopsis to the respective guides & finalisation of title, objectives, scope & methodology.	5	As per Appendix-A. (Synopsis)
<b>08<sup>th</sup> February 2011</b>	Submission of the problem definition along with Description about the system, Objectives, Scope and Methodology.	5	As per Appendix-B (Ch-1)
<b>21<sup>st</sup> February 2011</b>	Completion of Systems Analysis & System Design phase and submission to the respective guides.	5	As per Appendix-B. (Ch-2 & Ch-3)
<b>11<sup>th</sup> March 2011</b>	Demo of Project Execution	-	-
<b>01<sup>st</sup> April 2011</b>	Completion of Systems Development and Implementation Phase	10	As per Appendix-B. (Ch-4)
<b>08<sup>th</sup> April 2011</b>	First Draft of the Report to be submitted to the respective guides.	-	As per Appendix-B & C.
<b>27<sup>th</sup> April 2011</b>	Discussion with guides and return of corrected report.	5	As per Appendix-B & C.
<b>02<sup>nd</sup>-07<sup>th</sup> May 2011</b>	Submission of Final Report (One hard copy & CD) to the respective guides and internal presentation to the committee and Viva.	15	A Power Point or OHP based presentation along with the Executable Project Demonstration
<b>9<sup>th</sup>-14<sup>th</sup> May 2011 (Tentative Dates)</b>	External Viva before the external examiner.	60	A Power Point or OHP based presentation. along with the Executable Project Demonstration
<b>Total Marks</b>		<b>100</b>	

7. The list of allocated Project Guides and students for BCA-VI Sem. are attached as **Appendix-D.**

(Prof S Chaturvedi)  
Director

1. All Students of BCA Semester VI
2. Concerned IT Faculty Members

**FORMAT OF THE PROJECT PROPOSAL/SYNOPSIS**

1. **Title of the Project:** The title of the project is to be meaningful and must convey the tools/platform used, e.g.,

*“Student Registration System Using C Language”*

While selecting the language/platform for development students are advised to select it where they have strength.

2. **Problem Definition:** Students are required to give brief description of the system that is proposed to be computerised (e.g., in case of Student Registration System, your understanding of this system must be explained in brief). In addition students are required to give the exact outcome of the system. i.e., what/which part of the system is proposed to be computerised in the time schedule and available expertise?
3. **Objectives & Scope:** Explain the objectives and the scope of the project.
4. **Methodology:**
  - (a) Explain the methodology for data collection.
  - (b) Explain the technique (s) & tools/platform proposed to be used for systems analysis, design, testing and development of software.

<p><b>NOTE: ONCE THE TITLE, LANGUAGE/PLATFORM ARE FIXED THEY CANNOT BE CHANGED.</b></p>
---

## **METHODOLOGY FOR THE PROJECT WORK**

### **Chapter-1: Introduction/Problem Definition**

Following aspects need to be covered in this chapter:

**General Description of the System under Study:** Describe the system under study in details. Draw a 'Block Diagram, to show generic input, output and connectivity/flows between various entities of the system. It must clearly bring out how the existing information system works and achieves the task.

**Objectives of Study:** It should be pragmatic and consistent with the title of the study and achievable during the course of study within the prescribed schedule. Students are advised to develop the objectives in consultation with their respective guides. The objectives must start with action oriented verbs. Give in unambiguous terms what exactly is proposed to be done. For example, in respect to Student Registration System the objectives could be:

- “(a) To carry out systems analysis of Student Registration System .
- (b) To design & develop a stand-alone Student Registration System.”

**Scope of Project:** The scope of study should clearly mention the activities that are actually performed, volume of work carried out in the study and the reference organisation.

- (a) Give roadmap for System Analysis (i.e., How have you gone about to collect the data about functioning of the information system and in reference to which organisation),
- (b) System Design (What exactly has been designed, e.g., DFDs, Files/Tables, GUI etc), and
- (c) System Development (in terms programme development). For example for Student Registration System, scope could be:
  - “(i) To analyse the prevailing Student Registration System at IITM using interview & document analysis techniques.
  - (ii) To design & develop a GUI for data entry to be used at IITM.”

**Note: Objectives & Scope given above are examples only and not exhaustive.**

**Methodology used for Data Collection:** To carryout systems analysis and establish user requirements students can use either **primary data** (through a questionnaire, interview or observation) or **secondary data** (through document analysis or published data) or both. In either case, the method and source used must be mentioned with proper references.

**Methodology used for Analysis, Design & Development:** In this part the students should explain the technique (s) used for System Analysis, Design & Testing along with tools/platform used for development of software. Students may use classical System Development Life Cycle (SDLC) approach or its variant, Object Oriented Method, or a combination of techniques. If any specific tool/technique of Software Engineering is used for any facet of the project, it must be mentioned.

**Theoretical description:** A brief theoretical description of techniques actually used in the project is to be given under this Heading.

## **Chapter-2: Systems Requirement Analysis**

Based on the system described in Chapter-1, students are to carryout systems analysis of the existing system and establish the user requirements. The activities that are required to be carried out and to be described in this Chapter are:

- (a) Description of process (es) that are undertaken for software development.
- (b) Describes the 'Input to' and 'Output of' each process identified above, e.g., for Rail Reservation System input is a pre-printed form & GUI and output is a PNR ticket & a GUI. In case input & output forms exist, they should become the part of document analysis.
- (c) List out data elements that are to be incorporated as required by the user.
- (d) Describe the procedures/rules/mathematical relationships used for converting input into output, e.g., if the system is to calculate income tax, formula used for calculating income tax must be mentioned.
- (e) Describe the controls (for I/O & access), security needs, validation rules and codes used for data elements.

**NOTE: IN THE 'TRAINING ENVIRONMENT' YOUR GUIDE WILL INVARIABLY ACT AS THE USER OF SYSTEM.**

## **Chapter-3: Systems Design**

**Physical Design:** Explain relationship between various components (processes, input, output & entities) of the system. Draw DFD's or other relative diagrams.

**Explain Processing Logic:** Using Programme Flow Charts, Algorithm, Decision Table/Tree or Pseudo codes.

**Database Design:** Depending on the tool/package used, give contents of each file including Field Name, Type, and Size & Description. Generate ER diagram and Tabular Data Dictionary of the all supported data files & objects.

**Interface Design:**

- (a) **Output Design:** Screen & Print layouts, i.e., the format and contents (fields) to be included – along with the file to which it is linked.
- (b) **Input (Form or Screen) Design:** For keying-in data. Give fields, format, codes to be used, validation (error detection) requirements & the file to which it is linked.

**NOTE: YOU MUST INCLUDE SOME VALIDATION CHECKS. SECURITY AND CONTROL FEATURES (ACCESS RIGHTS) COULD BE ADDITIONAL.**

#### **Chapter-4: Systems Development & Implementation**

**Purpose:** To carry out the activities of writing actual programmes, their debugging, testing and validation. Following activities are to be carried out:

- (a) **Programme Development:** Develop the programs using the tools/platform specified in Chapter-1 (both back-end and front-end). Attach programme codes, screen prints of GUI and 'Actual Output Reports' using the real data. Codes may be attached as appendix & on CD.
- (b) **Testing & Debugging:** Use *Past Data* to check whether the programmes work as intended by you or you can use dummy data.

**NOTE: INCLUDE THE TEST REPORTS IN THE PROJECT TO SHOW THE ERRORS, IF ANY, AND A BRIEF WRITE-UP ON THEIR RECTIFICATION.**

#### **Chapter-5: Scope of Improvement, Summary and Conclusions**

Describe what has been achieved vis-à-vis objectives & scope of the project. Is the application developed by you ready for use or some bugs remain? Describe limitations and scope for future development/improvement.

## FORMAT OF THE PROJECT REPORT

### Format

1. The format for compilation of final report is given below:
  - (a) Title Page
  - (b) Certificate
  - (c) Acknowledgements
  - (d) Synopsis/Executive Summary
  - (e) Table of Contents
  - (f) List of Tables
  - (g) List of Figures
  - (h) List of Symbols
  - (j) Body of the Project Report
  - (k) References/Bibliography
  - (m) Appendices

### Title Page

2. The format of the title page is attached as Annexure-I.

### Certificate

3. The format of the certificate is attached as Annexure-II. A certificate by the student, guide and duly authenticated by the Director/Project Coordinator is to be attached.

### Acknowledgement

4. In the “Acknowledgement” page, the writer recognises his indebtedness for guidance and assistance by the guide and other members of the faculty. Courtesy demands that he/she also recognises specific contributions by other persons or institutions such as libraries and research foundations. Acknowledgements should be expressed simply, tastefully, and tactfully **duly signed above the name**.

### Synopsis/Executive Summary

5. A synopsis is a brief or condensed summary of the project for higher-level management positions. It should be about 3-4 pages in length. It should comprise *problem definition, brief description of the system, objectives & scope of the project, methodology and tools used, volume of work carried out, limitations, and directions for future development*, if any.

## Contents

6. The format of 'Table of Contents' and list of Tables/Figures/Symbols is attached as **Annexure-III**.

## **Body of the Project Report: Guidelines for Project Report Writing**

7. The guidelines for the Body of the Project Report (methodology) are detailed in **Appendix-B**. Following aspects must be adhered to:

(a) **Page Size:** Good quality white A4 size executive bond paper should be used for typing and duplication.

(b) **Chapter/Para Numbering:** The chapters are to be numbered as Chapter-1, Chapter-2 etc. The heading/title of the chapter is to appear below the chapter number in uppercase. Paragraphs are to be numbered as 1,2,3 etc in every chapter separately. Sub-paras are to be numbered as 1.1, 1.2, 1.3----, 2.1, 2.2, 2.3-----etc. Sub-sub paras are to be numbered as 1.11, 1.12, 1.13, 2.11, 2.12, 2.13 etc.

(c) **Page Specifications:**

- (i) Left Margin : 1 inch
- (ii) Right Margin : 1 inch
- (iii) Top Margin : 1 inch
- (iv) Bottom Margin : 1 inch
- (v) Gutter : 0.50 inch

(d) **Page Numbers:** All text pages starting from Body of the Project Report as well as program source code listings should be numbered at the **bottom center** of the pages.

(e) **Normal Body Text:**

- (i) **Font Size:** 12, Times New Roman, Double Spacing, Single Side Writing.
- (ii) **Paragraphs Heading Font Size:** 12, Times New Roman, Underlined
- (iii) **Page/Title Font Size:** 14

(f) **Table and Figure Number:** Table and figure numbers are to be written at the bottom of the table/ figure as given below:

- (i) **Table No-1: File Design for Employee Record**
- (ii) **Figure No-1: Data Flow Diagram**

(g) **Binding & Color Code of the Report:**

- (i) Hard Bound Report
- (ii) Background of the cover page – **Dark Brown**
- (iii) Letters in **Silver White**

## **References/Bibliography**

8. Examples are given below:

1. D.L. Carney, J.I. Cochran, "The 5ESS Switching System: Architectural Overview," *AT&T Technical Journal*, vol. **64**, no. **6**, July-August 1985, pp. 1339-1356.

2. A. Stevens, *C++ Database Development*, MIS Press, New York, 1992, p. 34.

3. J. Martin, *Computer Database Organization*, Prentice-Hall, Englewood Cliffs, NJ, 1977, p. 53.

4. [www.ibm.com/in](http://www.ibm.com/in)

5. [www.intel.com/india](http://www.intel.com/india)

## **Appendices**

9. The appendices are to be attached at the end of the report and to be numbered as Appendix-A, Appendix-B etc right justified at the top of the page. Below the word Appendix write in parenthesis "Refer Para No\_\_". The para number is to be the number in the body of text where the reference of appendix is given. An appendix may have annexure (s). If there are annexure, these are to be attached immediately after the said appendix. The annexures are to be numbered as Annexure-I, Annexure-II etc.

**Title of The Project Report**

(Font size = 18)

*Submitted in partial fulfillment of the requirements  
for the award of the degree of*

**Bachelor of Computer Applications (BCA)**

To

Guru Gobind Singh Indraprastha University, Delhi

Guide:  
(Guide Name)

Submitted by:  
(Student name)  
Roll No.:



**Institute of Information Technology & Management,  
New Delhi – 110058  
Batch (2008-2011)**

## **Certificate**

I, Mr./Ms. \_\_\_\_\_, Roll No. \_\_\_\_\_ student of  
BCA-VIth Semester(2008-2011)batch certify that the Project Report/Dissertation (BCA-354)  
entitled “ \_\_\_\_\_ ” is done by me and it is an authentic work  
carried out by me at \_\_\_\_\_ (Name of the organisation or of the  
Institute). The matter embodied in this project work has not been submitted earlier for the  
award of any degree or diploma to the best of my knowledge and belief.

Signature of the Student

Date:

Certified that the Project Report/Dissertation (BCA-354) entitled “ \_\_\_\_\_ ”  
done by Mr./Ms. \_\_\_\_\_, Roll No. \_\_\_\_\_, is  
completed under my guidance.

Signature of the Guide

Date:

Name of the Guide:

Designation:

Address:

Institute of Information Technology  
& Management, Janak Puri,  
New Delhi-110058

Countersigned

Director : Prof. S Chaturvedi

**FORMAT FOR TABLE OF CONTENTS**

**TABLE OF CONTENTS**

<b>S No</b>	<b>Topic</b>	<b>Page No</b>
1	Certificate	-
2	Acknowledgements	
3	Synopsis	-
4	List of Tables/Figures/Symbols	-
5	Chapter-1: Introduction	
6	Chapter-2: System Requirements Analysis	
7	Chapter-3: System Design	
8	Chapter-4: System Development	
9	Chapter-5: Summary and Conclusions	
10	References/Bibliography	
11	Appendices	

**FORMAT FOR LIST OF TABLES/FIGURES/ SYMBOLS**

**LIST OF TABLES**

<b>Table No</b>	<b>Title</b>	<b>Page No</b>
1	File Design for Employee Record	
2	File Design for Personal Details	

**LIST OF FIGURES**

<b>Figure No</b>	<b>Title</b>	<b>Page No</b>
1	Data Flow Diagram	
2	Input Screen for Data Entry	

**LIST OF SYMBOLS**

<b>S No</b>	<b>Symbol</b>	<b>Nomenclature &amp; Meaning</b>
1	$\Sigma$	Sigma (Summation)
2	Kbps	Kilo bits per second