Course – Post Graduate Diploma in Computer Application

Course Duration: 1 years.

PROGRAM OBJECTIVE:

With the growing use of Computers and Information Technology in our day to day life, it is necessary that we have the trained man power to manufacture, maintain and use the Computers as well as write the software required for the effective and efficient use of the computers and IT. If we try to understand one of the most common features that have enabled the businesses to become successful is that they all have evolved to become information enabled business. This course, Post Graduate Diploma in Computer Application, is designed and introduced by Gauhati University to help the research scholars of various department to gain knowledge on different programming language in order to do there research work. The knowledge and skills gained with a degree in Computer Science prepare graduates for a broad range of jobs in education, research, government sector, business sector and industry.

The program covers the various essential concepts in Computer Science.

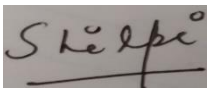
- The course lays a structured foundation of Computer fundamentals.
- Programming Concepts in various languages(C, and C++)
- The program covers the concept of Web Technologies, Data structures, Basics of operating system etc. Computer Networking, System Programming and Administration, Operating System, Digital Image Processing, Embedded systems, Computer Architecture, Microprocessor,
- It also provides detail knowledge PHP programming and Database management system.
- Student get ready for making a different software in resent.
- Capable of analysing the different system in IT sector.
- According to clients recruitment he/she is able to add and satisfied client demand.

COURSE OUTCOME:

FIRST SEMESTER	
PAPER CODE	COURSE OUTCOME
PGDCA-1 ICT Hardware	Upon completion of this course the student will be able to : a) Indicate the names and functions of hardware ports and the parts of the motherboard. b) Identify the names and distinguishing features of different kinds of input and output devices. c) Describe how the CPU processes data and instructions and controls the operation of all other devices. d) Identify the names, distinguishing features, and units for measuring different kinds of memory and storage devices. e) Search your personal computer for the various hardware components it contains.
PGDCA-2 Programming in C	Upon completion of this course, students will acquire knowledge about: a) Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems. b) Demonstrate an understanding of computer programming language concepts. c) To be able to develop C programs on Linux platform. d) Ability to design and develop Computer programs, analyses, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage. e) Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures. f) Student must be able to define union and enumeration user defined data types. Develop confidence for self-education and ability for life-long learning needed for Computer language.
PGDCA-3 Overview of Operating System	Upon completion of course: a) Identify the role of Operating System. b) Major functions of operating system c) Evolution of operating System d) Operating system as Resource Manager e) Different types of operating system f) Basics of Shell programming g) Different Linux commands
PGDCA-P4	Upon completion the student is able to :

Introduction to Office Automation	a) Office tools course would enable the students in crafting professional word documents b) Excel spread sheets c) Power point presentations using the Microsoft suite of office tools. d) To familiarize the students in preparation of documents and presentations with office automation tools. By learning the course, the students will be able · to perform documentation · to perform accounting operations · to perform presentation skills
PGDCA P5 Database Management System	Upon Completion of the course: a) Describe fundamental elements of RDBMS. b) Explain the basic concepts of relational data model, relational database design, relational algebra and database language SQL. c) Design E-R diagram to represent simple database applications scenarios. d) Criticize a database and improve the design by normalization. Basic of Database protection & Distributed databases
SECOND SEMESTER	
PGDCA P6 Data structures and algorithm	Upon completion of this course the student will be able to : a) Designs and analyses simple algorithms. b) Defines the meaning of iterative and recursive algorithms. c) Calculates the running time of iterative algorithms. d) Uses Big 'O' notation to express algorithmic running time. e) Describes and analyses elementary sorting algorithms such as Selection sort, Bubble sort, Insertion sort, and Shell sort. f) Understands and restates the fundamentals of basic data structures. g) Understands and explains the concept of Abstract Data Types (ADT) – separation of definitions of data types from implementations. h) Discusses basic ADTs such as stacks, queues, and trees i) Discusses recursion and tree traversal algorithms. j) Develops skills in implementations and applications of data structures. k) Implements basic algorithms for sorting and searching. l) Implements basic data structures such as stacks, queues and trees. m) Applies algorithms and data structures in various real-life software problems.
PGDCA –P 7 Internet and Web Technology	Upon completion of this course: a) Fundamentals of how the Internet and the Web function b) A basic understanding of graphic production with a specific stress on creating graphics for the Web c) General grounding introduction to more advanced topics such as programming and scripting d) Analyse a web page and identify its elements and attributes. e) Create web pages using XHTML and Cascading Style Sheets. f) Build dynamic web pages using JavaScript (Client side programming).

	Create XML documents and Schema.
PGDCA-EL Object Oriented Programming in C++	Upon completion of the course: The course is designed for to providing knowledge of C & C++. Students will be able to develop logics which will help them to create programs, applications. After the completion of this course, the students will be able to develop applications in C & C++.
PROJECT	Upon completion of this course: a) Able to do some innovative work with applying the knowledge gained from various courses undergone in the earlier years. b) Able to exhibit both analytical and synthetically skills. c) Able to know the complete project life cycle. d) Able to develop simple database projects e) Able to develop websites.



Shilpi Singh

Department of Computer Science