

STUDY AND EVALUATION SCHEME FOR
ONE YEAR POST DIPLOMA COURSE IN INFORMATION TECHNOLOGY

ANNUAL SYSTEM (Effective From)

I YEAR

Curriculum						Scheme of Examination									
Periods Per Week						S U B J E C T	Theory			Practical			Grand Total		
Le	Tut	Dr	Lab	Work	Tot		Examination	Sess.	Total	Examination	Sess.	Total			
c.	ori	aw	Shop	al		Dur.	Marks	Marks	Dur.	Marks	Marks				
3	-	-	3	-	6	1.1 Information Technology and Operating System.	2.5	50	20	70	3	60	30	90	160
3	-	-	4	-	7	1.2 Programming in C & C++	2.5	50	20	70	3	60	30	90	160
3	-	-	-	-	3	1.3 Data Communication & Computer Network	2.5	50	20	70	--	--	--	--	70
3	-	-	3	-	6	1.4 Visual Basic.Net	2.5	50	20	70	3	70	35	105	175
3	-	-	3	-	6	1.5 Data Structure Using C&C++	2.5	50	20	70	3	60	30	90	160
3	-	-	3	-	6	1.6 Internet & Web Technology	2.5	50	20	70	3	60	30	90	160
3	-	-	3	-	6	1.7 Concepts of RDBMS Using Oracle	2.5	50	20	70	3	60	30	90	160
3	-	-	-	-	3	1.8 MIS System Analysis & Design	2.5	50	20	70	-	--	--	--	70
2	-	-	-	-	2	1.9 Environmental Education(*) And Disaster Management	2.5	50	--	--	--	--	--	--	--
-	-	-	3	-	3	1.10 Project -i. Problem	--	--	--	--	3	80	40	120	120
						ii) Industrial Training	--	--	--	--	-	40	20	60	60
						iii Seminar	--	--	--	--	-	--	5	5	5
26	-	-	22	-	48	T O T A L		400	160	560	-	490	255	745	1300
													Games/NCC/Social and Cultural activities + Discipline (30+20)		50
													Total		1350

- NOTE:-(1) Each period will be of 50 minutes duration.
(2) Each session will be of 32 weeks.
(3) Effective teaching will be at least 25 weeks.
(4) Remaining periods will be utilised for revision etc.
(5) Duration of Industrial Training should be One Month.
(6) (*) It is compulsory to appear & to pass in examination, But marks will not be included for division and percentage of obtained marks.
(7) At least 1 seminar should be organised at the institute level with in the session, Participation of each student is compulsory and sessional marks for this should be allotted to the student. (No External Exam.)

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MAIN FEATURES OF THE CURRICULUM

1. Title of the Course : Post Diploma In Information
: Technology
2. Duration of the Course : One Year
3. Type of the Course : Full Time Institutional
4. Pattern of the Course : Annual System
5. Intake : 60
6. Entry Qualification : Diploma in Any Branch
7. Admission Criteria : State Joint Entrance
Examination

List of experts who contributed in the modification of curriculum of Post Diploma in INFORMATION TECHNOLOGY In Annual System, held on December, 26, 2000 at Board of Technical Education, Lucknow.

1. Smt. Usha Birjee Director
D.T.E., Kanpur
2. Shri Subhash Tandon Jt. Manager
Uptron India Limited
10, Ashok Marg Lucknow.
3. Shri Ram singh Sr. Manager
U.P. Jal Nigam
4/18 Gomtinagar, Lucknow.
4. Shri Ranjan Srivastav Asstt. Professor
I.I.I.T., Allhabad.
5. Shri S.K. Verma Principal
G.G. Polytechnic Lucknow.
6. Shri Ashraf Ali Professor
I.R.D.T., Kanpur
7. Shri R.S.K. Sinha Asstt. Professor
Board Of Technical Education
Lucknow.
8. Shri Ram Singh Secretary
Board of Technical Education
Lucknow.

List of experts who contributed to Change the of curriculum of Post Diploma in INFORMATION TECHNOLOGY held on 24.10.2002 at I.R.D.T . U.P., Kanpur

1. Shri S. C. GUPTA Director,
Dr. Ambedkar Institute of
Technology for handicapped,
Kanpur
2. Shri Aditya Singh Manager.
UPTEC Awadhपुरi Kanpur
3. Shri B.R. Verma Head Computer
Govt. Polytechnic Lucknow
4. Shri L.S. Yadav Head Computer
Govt. Polytechnic Kanpur
5. Shri Saurabh Agrawal Lecturer Computer
United Institute of Designing
Kanpur
6. Shri Ashok Kushwaha Lecturer Computer
Govt. Girls Polytechnic Lucknow
7. Shri Vimal Misra Lecturer Computer
Govt. Polytechnic Jhansi
8. Shri Ashraf Ali Professor
I.R.D.T., U.P. Kanpur.
9. Shri A.P. Singh Lecturer Computer
I.R.D.T., U.P. Kanpur.

List of experts who contributed to Change the of curriculum of One Year Post Graduate Diploma in Information Technology held on 27.02.2003 at I.R.D.T . U.P., Kanpur.

1. Shri Gurdeep Singh Director.
I.R.D.T.,U.P. Kanpur.
2. Shri Rajeev Misra Head of Department
Information Technology
H.B.T.I.Kanpur
3. Shri Raghu Raj Singh Head of Department
Computer Science & Engg.
H.B.T.I.Kanpur.
4. Shri S. C. GUPTA HOD Computer Science & Engg.
Dr. Ambedkar Institute of
Technology for handicapped,
Kanpur
5. Shri M.A. Idrees Senior System Analyst
NIC, Yojna Bhawan
Lucknow.
6. Shri Alok Tiwari District Informatics Officer
Kanpur Dehat.
7. Shri B.R. Verma Head Computer
Govt. Polytechnic Lucknow
8. Shri L.S. Yadav Head Computer
Govt. Polytechnic Kanpur
9. Shri Saurabh Agrawal Lecturer Computer
United Institute of Designing
Kanpur
10. Shri Ashok Kushwaha Lecturer Computer
Govt. Girls Polytechnic Lucknow
11. Shri Ashraf Ali Professor
I.R.D.T.,U.P.Kanpur.

List of experts who contributed to Change the of curriculum of Three Years Diploma Course in INFORMATION TECHNOLOGY held on 15.10.2003 at I.R.D.T . U.P., Kanpur.

1. Shri Alok Tiwari District Informatics Officer
Kanpur Dehat.
2. Shri B.R. Verma Head Computer
Govt. Polytechnic Lucknow
3. Shri D. Singh Head Computer
Govt. Girls Polytechnic,
Allahabad
4. Shri S. N. Singh Head Computer
Govt. Polytechnic Unnao
5. Shri L.S. Yadav Head Computer
Govt. Polytechnic Kanpur
6. Shri Saurabh Agrawal Lecturer Computer
United Institute of Designing
Kanpur
7. Shri Alok Gupta HIG 174, Kalish Vihar,
Kalyanpur, Kanpur

8. Shri R. Goel Programmer, I.E.T., Lucknow
9. Shri Ashraf Ali Professor
I.R.D.T., Kanpur

List of experts who contributed to Change the of curriculum of One Year Post Graduate Diploma in Information Technology held on 15.11.2007 and 16.11.2007 at I.R.D.T . U.P., Kanpur.

1. Shri Ashraf Ali Head (Computer)
Govt. Girls Poly., Lucknow
2. Shri L.S. Yadav Head Computer
Govt. Polytechnic, Lucknow
3. Shri B.R. Verma Head Computer/Asstt. Director
D. T. E., Kanpur
4. Shri Alok Tiwari District Informatics Officer
Kanpur Dehat.
5. Shri Jitendra Kumar Sr. Manager
U. P. Tech, Mall Road, Kanpur
6. Shri Kurunesh Yadav Lecturer, G.G.P., Lucknow
7. Shri Ashok Kushwaha Lecturer, G.G.P., Lucknow
8. Shri S. K. Agarwal Lecturer, G.G.P., Allahabad
9. Smt Sarla Agarwal Lecturer(Electronics),
Govt. Poly., Barillary
10. Smt. R. P. Alam. Assistant Professor
I. R. D. T., Kanpur

IV. NEED ANALYSIS :

With the development of civilisation, human needs to keep on increasing their fulfilment needed simulation, analysis of lot of informations too became essential. Now the individual responsibilities of every responsible citizen grew up to such a light that it is difficult for him to handle them successfully. Human memory too has its own limitations. So here comes the computer to help in all kind of decision making, whether it is highly complicated research work, war strategy, market speculations or day-to-day need of human life etc. As a matter of fact every individual activity needs decision making. So the computer is the need of organisations and also the need of individual being. It will not be exaggeration if we say that it is "Information era". So is the need for developing a course for "Information Technology" at diploma level. It is supposed that such personnel will not face any dearth of employment because of omnipresent nature of computer.

The syllabus for diploma in "Information Technology" has been developed to meet above mentioned aims. Obviously achievement of any aim requires knowledge of the means and procedures of their utilisation. With this view various courses have been carefully selected and their length and depth decided by experienced experts in the field.

CHANGES IN SYLLABUS

I YEAR

1.1 INFORMATION TECHNOLOGY & OPERATING SYSTEM

1. Topic No. 6 removed.
2. In topic no. 7 DOS removed, Windows VISTA added.
3. Operating System redesigned.

1.1 COMPONENT OF IT

1. In topic no 4. "Mobile Computing" is shifted in topic no. 6 and new matter added as "Tele conferencing".
2. In Topic no. 6 "CPU and Mathematical Logic" is shifted in II Year in Paper No. "2.7 Computer Organisation".

1.2 PROGRAMMING IN C & C++

1. In Topic no. 4 "Generalisation, Specialization" added.

1.3 DATA COMMUNICATION & COMPUTER NETWORK

1. New paper 2.3 "Data Communication & Computer Network" introduce in place of "Computer Communication Network".

1.4 VISUAL BASIC

1. In topic no. 6 VB.NET is added. and in lab a new experiment VB.NET added.

1.7 CONCEPTS OF RDBMS

1. In topic no. 5 SQL commands introduced.

1.6 INTERNET AND WEB TECHNOLOGY

1. This paper is redesigned in place of 2 paper named as "Internet" and Other as "Web Technology".
- * ASP programme, redesigned HTML and Web Building added.

EQUIPMENT LIST FOR COMPUTER CENTRE, STAFF STRUCTURE & SPACE REQUIREMENT

Equipment list for computer centre revised as per changed syllabus and number of equipment, staff structure and space requirement revised for the intake of 60 students.

YEAR WISE DISTRIBUTION OF PAPERS

- 1.1 Information Technology & Operating System.
- 1.2 Programming in C and C++.
- 1.3 Data Communication & Computer Network
- 1.4 Visual Basic
- 1.5 Data Structure Using C++
- 1.6 Internet & Web Technology
- 1.7 Concept of RDBMS Using Oracle
- 1.8 MIS & System Analysis & Design
- 1.9 Environmental Education & Disaster Management
- 1.10 Project
 - i. Problem
 - ii. Industrial Training
 - iii. Seminar

1.1 Information Technology & Operating System.

L T P
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Rationale

Computers have become an integral part of modern industrial atmosphere. Every technician is supposed to be aware of the application of computers. A student having knowledge of popular software and computer peripherals will prove useful to accept any challenge in day today working.

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Introduction of Information Technology	9	-	-
2.	Component of Information technology	12	-	-
3.	Data Representation	12	-	-
4.	Emerging Trends	12	-	-
5.	Components of Computers	12	-	-
7.	Unix, linux & Windows	18	-	-
		75	-	75

1. Intoduction of Information Technology:

Definition Of Information, difference betwween data and information,need for information, qualities of information,value of information, categories of information,level of Information. Use of Information Technology in Office Automation, Components of Information Technology : Computers & Its Types

2. Components of Information Technology:

Components Hardware & its Functioning - Input Unit, Control Processing Unit, Output Unit, Types of Input Units & Output Units
Computer Software - Types of Software, System Software, Application Software.

3. Data Representation :

Binary Number System, Conversion from Decimal to Binary, Conversion from Binary to Decimal, Hexadecimal and Octadecimal No. System, Memory Addressing and its Importantance, ASCII and EBCDIC coding System.

4. Emerging Trends in Information Technology :

Concepts of Networking and Local Area Networking, Advanced Input/ Output Devices and their use(MICR, OCR, Scanners, Light pen, Plotters, Microfilms, Rewritable, CD-ROMS etc, Multimedia, Video Conferencing, Mobile computing(wireless Communication).

5. Components of Computer:

Types of PC e.g. Desktops, Labtops, Notebooks, Palmtops, Memory System of a PC, Primary Memory, RAM(Random Access Memory, ROM(read only Memory), Secondary Memory, Types of Secondary Storage, Acces Mechanism of storage Devices, PC setup and ROM-BIOS, Elemantary Trouble shooting.

7. UNIX, Linux & WINDOWS

Introductin & Functions of O.S, C.P.U. Scheduling, Unix, Linux commond, Features of Windows 98/2000/VISTA and functions of Programs, Documents, setting, Find, Run.

Practicals

1. Exercises on Unix Commonds.
2. Exercises on Linux Commonds.
3. Exercises on Windows98/2000/VISTA.

1.2 PROGRAMMING IN C & C++

(Post Graduate Diploma In Computer Application, Diploma In Computer Science & Engineering and Diploma In Information Technology)

L T P
3 - 4

Rationale :

For solution of different problems, C is a very powerful high level language. It is widely used in research and engineering problems. A software technician must be aware of this language for working in computer environment.

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Concept of Programming	10	-	-
2.	Programming in C	30	-	-
3.	Classes & Objects	30	-	-
4.	Programming in C++	30	-	-
		100	-	100

DETAILED CONTENTS

1. CONCEPT OF PROGRAMMING:

Concept of Flowcharting, algorithm, programming, Structured Programming Various techniques of programming, Use of programming.

2. Programming in C:

Data Types, Operators and Expressions; Input & Output printf, scanf, library Control Statement: IF- ELSE, While, For, Do-While, Switch; Functions and modular programming; Scope of variables, parameter passing, recursion, block structure; preprocessor statements; pointers and arrays; structures and unions; File handling.

3. CLASSES & OBJECT:

What is a class, what is an object, constructors, types of object (external, automatic static, Dynamic objects)

Metaclass,role of meta class.Scope of classes, array of objects, objects as a function argument.

4.Programming in C++

What is object-orientation, area of object technology,C++, getting to grips with C++(data types,escape sequence,characters, variables, operator, notation, Arrays,Function conditional statements.call by value,call by reference.Pointer : C++ memory map, dynamic allocation pointers,pointers with arrays.Structure,structure with arrays,passing, structure of function.Enumerated data types, Inherentance, apolymorphism & Overloading.

PROGRAMMING IN C & C++

List of Experiments

1. Exercises involving output and input format controls in Pascal.
2. Exercises involving control transfer statements in C & C++
3. Exercises with arrays & Pointers in C & C++.
4. Exercises with functions in C & C++.
5. Exercises with files in C & C++.

1.3 DATA COMMUNICATION AND COMPUTER NETWORKS

(Common to Post Graduate In Computer Application, Diploma In Information Technology, Diploma In Computer Science & Engineering)

L	T	P
3	-	-

Rationale :

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Data Communications	5	-	-
2.	Transmission Media	10	-	-
3.	Protocols and Architecture	10	-	-
4.	Data Link Control & Protocal	10	-	-
5.	Local Aera Network	10	-	-
6.	Network Layer	10	-	-
7.	Transport Protocols	10	-	-
8.	Wide Aera Networks	10	-	-
		75	-	-

DETAILED CONTENTS

1. DATA COMMUNICATION :

Data Transmission : Analog Transmission, Digital Transmission.

Data Encoding : Digital Data- digital signals, Digital Data - analog signals, Analog Data-Digital Signals, Analog Data-Analog Signals, Synchronous and Asynchrous Transfer.

2. TRANSMISSION MEDIA :

Twisted pair, Coaxial Cable, Optical Fibers, Wireless Transmission, Microwave, Radio Waves, Infrared.

3. PROTOCOLS AND ARCHITECTURE :

Protocols, OSI reference models, TCP/IP protocal suit.

4. DATA LINK CONTROL AND PROTOCOL :

Flow Control - Stop and Wait, Sliding window, Error Detection, Error Control, HDLC.

5. LOCAL AREA NETWORK :

LAN architecture, LAN topologies - BUS/Tree LAN, Ring LAN, Star LAN, Wireless LAN, Ethernet and Fast Ethernet (CSMA/CD), Tokenring and FDDI.

6. NETWORK LAYER :

Introduction, Routers, Routing Algorithms, Congestion control algorithm, Addressing, Internet working.

7. TRANSPORT PROTOCOLS :

Transport services, TCP, UDP.

8. WIDE AREA NETWORKS :

WAN, Circuit switching, Packet switching, Frame relay, ATM, ISDN.

1.4 VISUAL BASIC.NET

(Common to Computer Science & Engineering, Post Graduate Diploma in Computer Application, Diploma in information Technology.)

L T P
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TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Fundamental of Visual BASIC	10	-	-
2.	Introduction to Visual Basic.NET	10	-	-
3.	Programming with Module & Procedure	10	-	-
4.	Program flow & Decision Making	15	-	-
5.	Array & Control Functions	15	-	-
6.	Designing Customs Menus	15	-	-
		75	-	75

DETAILED CONTENTS

1. FUNDAMENTAL OF VISUAL BASIC:-

Understanding Events,preparing to create the program,creating program user interface,Caption & name properties, attaching code to objects, properties for form appearance and behaviour, Control properties, Caption property, Enable property, Value property and Text property.

2. INTRODUCTION TO VISUAL BSIC NET :

Introduction to NET framework and the common language routine, Visual Basic integrated development environment, Visual Basic.Net Application

3. PROGRAMMING WITH MODULES & PROCEDURES :

Placing code in modules, understand the procedure, use standard code writing conventions, work with data types, variables.

4. PROGRAMME FLOW AND DECISION MAKING :

Unconditional branching, conditional testing and branching, looping.

5. ARRAYS & CONTROL FUNCTIONS:

Control arrays and sequential files, one dimensional and multi dimensional arrays. List box, combobox control, timer control, format control, data type conversion, input box functions, create message box.

6. DESIGNING CUSTOM MENUS :

- i) Understand the menu, editor, window, create menu application, edit menu, polish the appearance of menus, code menu option.
- ii) How to interact with ms access database with visual basic.net.

LIST OF PRACTICAL

- 1. Develop small software using visual basic and Visual Basic.NET (all commands).

1.5 DATA STRUCTURE USING C & C++

(Common to Post Diploma in Computer Science & Engg. and Post Graduate Diploma In Computer Application, Diploma In Information Technology)

L	T	P
3	-	3

Rationale :

For solution of different problems 'C' is a very powerful high level language. It is widely used in research and engineering problems. A software technician aware of this language will be useful for working in computer environment.

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Basic Concepts.	8	-	
2.	Stacks And Queues	10	-	
3.	Lists	12	-	
4.	Sorting & Merging	11	-	
5.	Tables	11	-	
6.	Trees	12	-	
7.	Graphs	11	-	
		75	-	75

DETAILED CONTENTS

1. BASIC CONCEPTS:
Basic concepts and notation & Mathematical background
2. Stacks And Queues
Representation of stacks & queues, linked sequential.
3. LISTS:
List representation techniques, Multilinked structures, Dynamic storage allocation techniques.
4. SORTING ALGORITHMS
Insertion sorts, Bubble sort, Quicksort, Mergesort, Heapsort
5. Tables: -
Searching sequential tables, Hash tables and Symbol tables, Heaps.r

6. TREES

Definitions and basic concepts, Linked tree representations, binary tree traversal algorithms, B-trees and their applications.

7. Graphs:

Depths-first-search.

DATA STRUCTURE USING C & C++

List of Experiments

1. Write a program on Linked List Using 'C' & C++.
2. Exercise on Stack, Queues. Using C & C++
3. Exercises on Sorting .

1.6 INTERNET & WEB TECHNOLOGY

(Common with Post Graduate Diploma In Computer Application, Diploma In Information Technology, Post Graduate Diploma In Computer Application)

L T P
3 - 3

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Internet	30	-	-
2.	Web Technology	45	-	
		75	-	75

INTERNET

Introducing Internet, Its Uses : Why Internet, Basic internet Tools, E-Mail, Ftp, Telnet, Usenet News, Web Browsers, Search Engines, Yahoo, Archie, Infoseek, Veronica, World Wide Web.

How Internet works: Administration of Internet, How to Go On Internet : Requirements, Hardware, Software, ISP, Internet Account PPP/Shell. How to Use E-Mail Services On Internet Introducing Hotmail/Yahoo/Vsa-Net, How To Operate E-Mail address, How to Operate E-Mail Services : Sending E-Mail, Forwarding, Saving, Reading etc., How to attach files,

2. WEB TECHNOLOGY :

A. HTML:

Elements of HTML, HTML sources & Rules of nesting, syntax conventions, HTML Categories, text tags, Formatting WebPages by using Styles, adding pictures, image attribute , introduction to forms, tables and models, advantages & limitations of tables, frames, links. SS cascading style sheets, XHTML, XML, Client Side Scripting, Server Side Scripting, Managing data with SQL.

B. JAVA SCRIPTS:

i) JAVA SCRIPTS: what is a Java Scripts, adding, Java scripts to documents, embedding java scripts, linking java scripts, creating a page program with scripts. What is a Java and its appletes, to make webpages run server sripts, activeX.

C. ASP PROGRAMMES :

What is ASP, What can ASP do for you, How to install IIS and

Run ASP on windows XP, Basic syntex rules (V.B. Script, Java Script and o/p syntax used in ASP, Procedures, Functions, Forms. Radio buttons, Check Box, Data Base Connectivity.

D. Web building.

PRACTICAL

1. Excercises on E-Mail.
2. Excercises on to see web sites.
3. Development of different Websites using all tools.
4. Development of Websites useing Frontpage

1.7 CONCEPTS OF RELATIONAL DATABASE MANAGEMENT SYSTEM USING ORACLE.

(Common to Computer Science & Engineering, Post Graduate Diploma in Computer Application, Diploma in Information Technology).

L T P
3 - 3

Rationale:

Relational Database management system is the modern technique of managing data. The knowledge of DBMS is very useful & effective in preparation of different types of application software like Inventory, Financial & Accounting system etc. The student equipped with knowledge of this subject will be useful in the areas of the computer application.

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Concepts of DBMS	13	-	-
2.	Relational Database design	17	-	-
3.	File Organisation Techniques	13	-	-
4.	Security and Privacy	17	-	-
5.	SQL	15	-	-
		75	-	75

DETAILED CONTENTS

1. CONCEPTS OF DBMS :

Data items, DBA, Entity, Attributes, Logical and Physical data, Primary and secondary keys, Form of query, Redundancy, Schema and Sub-schema.

2. RELATIONAL DATABASE DESIGN

Define data model, classify data model, object based logical model, Record based data model, entity, attribute, Relationship, data model, network model, hierarchy model, top down approach, bottom approach of logical database, need of normalization. Types of normal form function and dependency, properties of relation.

3. FILE ORGANISATION TECHNIQUES

Sequential index, Sequential and Random File organisation technique and their relative advantages and disadvantages.

4. SECURITY AND PRIVACY

Integrity, protection, security, concurrency, recovery.

5. SQL

Introduction to SQL commands, Type of SQL commands and its application -DDL, DML, DLL,PL/SQL Commands.

RELATIONAL DATA BASE MANAGEMENT SYSTEM

List Of Practicals

1. Programms in ORACLE using relational structures for complicated systems.
2. Programms and reports generation through ORACLE & SQL.

1.8 MIS & SYSTEM ANALYSIS & DESIGN

(Common to Diploma in Information Technology, Diploma in Computer Science & Engineering, Post Graduate Diploma In Computer Application)

L T P
3 - -

TOPIC WISE DISTRIBUTION OF PERIODS

Sl.No.	Units	Coverage Time		
		L	T	P
1.	Intoduction to Management System	6	-	-
2.	Level Of Management	10	-	-
3.	Influence of Information Technology	12	-	-
4.	The System Concepts & Characteristics	10	-	-
5.	Elements of a System & System Development	10	-	-
6.	Detailed Syatem Analysis	9	-	-
7.	Structured System Analysis Tools	9	-	-
8 .	The process and Stages of System Design	9	-	-
		75	-	-

1. Introduction to Management System.

What is information, components of Information system. What is MIS, Meaning, need role and importance, evaluation of MIS, Traditional management System Vs MIS, components of MIS, Common managerial, Process, Planning, organising & Controlling. Types of information system TPS, DSS, MIS. Assumptions & limitations of each system. System requirements.

2. Level Of Management

Strategic, tractical & operational level, different functions of each level, characteristics of informations & its need. flow of information in levels, concepts of balance MIS, effectiveness and efficiency criteria.

3. Influence of Information Technology

Problems with MIS, causes and solutions, Knowledge requirements for MIS, need and role in decision making, advantages of knowledge based system, types of knowledge system. Knowledge requirement for MIS.

4. The System Concepts, Characteristics -

Organization, Interaction, Interdependence, Integration, Control Objective.

5. Elements of a System & System Development:

Inputs and outputs, Processors, Controls, Feedback, Environment, Boundaries and Interface, Examples of System. System Development Life Cycle, Phrases in SDLC(Only Definition) - Problems Identification, Preliminary Investigation/Study, Types of Feasibility - Operational, Technical, Economical, System Analysis, System Design, Testing, Implementation.

6. Detailed System Analysis-

Primary Investigation, Facts, Gathering and its techniques(Interviews, Questionnaires, Background Reading, On site Observation, Record Gathering)

7. Structured System Analysis Tools for

SSA(Data Flow Diagrams, Data Dictionary. Decision Tree, Decision Table, Pros and Cons of each Table.

8. The process and Stages of System Design:

Logical & Physical-Design, Design methodologies in Brief, Input/Output and Forms Design, Input Design(Input Data, Media and devices), Output Design.

1.9 ENVIRONMENTAL EDUCATION & DISASTER MANAGEMENT

L T P
2 - -

RATIONALE:

A diploma student must have the knowledge of different types of pollution caused due to industrialisation and construction activities, so as he may help in balancing of eco-system and control pollution by providing controlling measures. They should be also aware of the environmental laws for effectively controlling the pollution of environment. The topics are to be taught in light of legislation Para-3.

TOPIC WISE DISTRIBUTION OF PERIODS:

SL. NO.	TOPIC	L	T	P
1.	Introduction	6		
2.	Pollution	3		
2.1	Water Pollution	8		
2.2	Air Pollution	8		
2.3	Noise Pollution	3		
2.4	Radio Active Pollution	4		
2.5	Solid Waste Management	5		
3.	Legislations	3		
4.	Environmental Impact Assessment	4		
5.	Disaster Management	6		
TOTAL		50	-	-

DETAILED CONTENTS

1. INTRODUCTION :
 - Basics of ecology, Ecosystem, Biodiversity Human activities and its effect on ecology and eco system, different development i.e. irrigation, urbanization, road development and other engineering activities and their effects on ecology and eco system, Mining and deforestation and their effects.
 - Lowering of water level , Urbanization.
 - Biodegradation and Biodegradability, composting, bio remediation, Microbes .Use of biopesticides and biofungicides.
 - Global warning concerns, Ozone layer depletion, Green house effect, Acid rain,etc.

2. POLLUTION :

Sources of pollution, natural and man made, their effects on living environments and related legislation.

2.1 WATER POLLUTION :

- Factors contributing water pollution and their effect.
- Domestic waste water and industrial waste water. Heavy metals, microbes and leaching metal.
- Physical, Chemical and Biological Characteristics of waste water.
- Indian Standards for quality of drinking water.
- Indian Standards for quality of treated waste water.
- Treatment methods of effluent (domestic waste water and industrial/ mining waste water), its reuse/safe disposal.

2.2 AIR POLLUTION :

Definition of Air pollution, types of air pollutants i.e. SPM, NOX, SOX, CO, CO₂, NH₃, F, CL, causes and its effects on the environment.

- Monitoring and control of air pollutants, Control measures techniques. Introductory Idea of control equipment in industries i.e.
 - A. Settling chambers
 - B. Cyclones
 - C. Scrubbers (Dry and Wet)
 - D. Multi Clones
 - E. Electro Static Precipitations
 - F. Bog Fillers.
- Ambient air quality measurement and their standards.
- Process and domestic emission control
- Vehicular Pollution and Its control with special emphasis of Euro-I, Euro-II, Euro-III and Euro IV.

2.3 NOISE POLLUTION :

Sources of noise pollution, its effect and control.

2.4 RADISACTIVE POLLUTION :

Sources and its effect on human, animal, plant and material,

means to control and preventive measures.

2.5 SOLID WASTE MANAGEMENT :

Municipal solid waste, Biomedical waste, Industrial and Hazardous waste, Plastic waste and its management.

3. LEGISLATION :

Preliminary knowledge of the following Acts and rules made thereunder-

- The Water (Prevention and Control of Pollution) Act - 1974.
- The Air (Prevention and Control of Pollution) Act - 1981.
- The Environmental Protection (Prevention and Control of Pollution) Act -1986. Rules notified under EP Act - 1986 Viz.
 - # The Manufacture, Storage and Import of Hazardous Chemical (Amendment) Rules, 2000
 - # The Hazardous Wastes (Management and Handling) Amendment Rules, 2003.
 - # Bio-Medical Waste (Management and Handling) (Amendment) Rules, 2003.
 - # The Noise Pollution (Regulation and Control) (Amendment) Rules, 2002.
 - # Municipal Solid Wastes (Management and Handling) Rules, 2000.
 - # The Recycled Plastics Manufacture and Usage (Amendment) rules, 2003.

4. ENVIRONMENTAL IMPACT ASSESSMENT (EIA) :

- Basic concepts, objective and methodology of EIA.
- Objectives and requirement of Environmental Management System (ISO-14000) (An Introduction).

5. DISASTER MANAGEMENT :

Definition of disaster - Natural and Manmade, Type of disaster management, How disaster forms, Destructive power, Causes and Hazards, Case study of Tsunami Disaster, National policy- Its objective and main features, National Environment Policy, Need for central intervention, State Disaster Authority- Duties and powers, Case studies of various Disaster in the country, Meaning and benefit of

vulnerability reduction, Factor promoting vulnerability reduction and mitigation, Emergency support function plan.

Main feature and function of National Disaster Management Frame Work, Disaster mitigation and prevention, Legal Policy Frame Work, Early warning system, Human Resource Development and Function, Information dissemination and communication.

1.9 (i) PROJECT

L	T	P
-	-	3

Rationale:

The purpose of including project in curriculum is to develop skill and knowledge specifications of software used in computers.

1. INFORMATION TECHNOLOGY PROJECT:

The student is expected to work on a project in consultation and acceptance with the instructor on either system software aspects related to industrial environment.

The end targets for the project should be well defined and evaluation should place major importance on meeting these targets.

2. DATA PROCESSING PROJECT:

The student is expected to work and learn from implementing an application software and study its functional and performance aspects and submit a report.

The evaluation must be based on the project report and the seminars.

3. SOFTWARE MAINTENANCE PROJECT:

Similar as Information Technology Project (Software), related to maintenance operation and evaluation of the systems.

1.9 (ii) INDUSTRIAL TRAINING

(One month during summer vacation)

OBJECTIVES :

TO enables the student to ;

1. experience the real life computer environment.
2. see the practical problems and the process of their solution.
3. work in groups.
4. find suitable problem of interest for project work.

The industrial training will be of 8 weeks duration. It should be organised at the end of the course.

The industrial training may be organised at reputed large computer centres where scientific/commercial data processing jobs are being done. The training schedule may be drawn in such a way that the student may observe the work of the system analysts, the system programmers and the operators. They may also study the environment of the computer centre, the job flow and the associated procedures. Special attention should be paid so that the students may observe the documentation and organisation of the computer centre activities.

The students should prepare a report on the industrial training. The report and the viva-voce of the industrial training along with the assessment of the training supervisors of the industry and the teacher monitoring the training shall form the basis of award of marks.

ONE YEAR POST DIPLOMA IN INFORMATION TECHNOLOGY
STAFF STRUCTURE

Intake of the Course 60
Pattern of the Course ANNUAL SYSTEM

Sl. No.	Name of Post	No.
1.	H.O.D.	1 (Common with I.T. 3 yrs, Diploma course OR Computer Application OR Computer Sc. & Engg. course)
2.	Lecturer In Information Technoly	4
3.	Computer Programmer Cum Operator	3
4.	Qualifications of Staff : as per service rule	

SPACE REQUIREMENT

1. Computer Centre	150 Sq.m. (Common with I.T. 3 yrs, Diploma course OR Computer Application OR Computer Sc. & Engg. course)
2. Lecture's Room	20 Sq.m.
3. Class Room/Tutorial (1 Nos.x 60 m2	60 Sq.m.

COMPUTER CENTRE

COST	S.No.	DESCRIPTION	QTY.	APPROX. (in Rs.)
	1	Latest Version-Core-2 Dual Processor 62 2 MB L2 Cache, 2.4 Ghz ofr Higher 1 GB DDR2 RAM,160 GB SATA HDD,72K RPM MONITOR COLOUR 17" TFT DVD Writer, Multi Media Kit with Speaker & Microphone FDD - 1.44 MB Key Board - Multimedia Mouse - Optical Scrool Fibre Mouse 32 Bit PCI ETHERNET CARD(10/100) Mbps Internal Modem, Pen Drive 2GB, Blue Tooth Pre loaded Windows XP/2000/VISTA Pre loaded latest Anti Virus with licence media and manual with UPS 660 VA OR Computer of latest Specification	62	20,000,00=00 (60+2Server)
	2.	Lap Top (Latest Version)	04	300000.00
	3.	Software :(With Licence)		
		i WINDOWS - XP/2000/VISTA		
		ii ORACLE 9i or Latest Windows based 20 USERS) & Development (Latest)		
		iii. VISUAL STUDIO (professional)		
		iv. MS OFFICE XP		
		v. COMPILER - 'C',C++, JAVA		
		vi. Unix & Linux		
		vii. Front Pange, Internet Explorer,Page Maker Corel Draw, Dream Weaver		
		viii. Personal Web Server, HTML, IIS		
		ix. Tally		
	3.	Hardware		
		i. Switch-16,8,24 Port all accessories related to Networking.		100000.00
		ii.Scanner- A4/Auto lighter Scanner	02	25000.00
	4.	132 Column 600 CPS or faster 9 Pin dot matrix printer with 500 million character head life	02	50000.00
	5.	Laser Jet-A4,All In One (2 Each)	04	70000.00
	6.	Desk Jet-A4, Photo Smart(2 Each)	04	40000.00
	7.	5 KVA on line UPS with minimum 30 miniute battery backup along with sealed maintenance free batteries. Provision for connecting	04	400000.00

	external batteries with network connectivity. (For 2 Labs)		
7.	Split Air Conditioner 1.5 tones capacity with ISI mark alongwith electronic voltage stablizer with over voltage and time delay circuit	08	300000.00
8.	Room preparation and furniture	LS	
9.	Cat-6 cabling for network	LS	
10.	2 KVA Inverter Cum UPS	02	50000.00
11.	Digital Camera	01	25000.00
14.	Fire Extinguisher (2 Kg.)	04	15000.00
16.	Fire Extinguisher (5 Kg.)	04	30000.00
17.	Vaccum Cleaner	02	15000.00
18.	LCD Projector	02	200000.00
19.	Pen drive 1GB, 2GB, 4 GB	10	15000.00
20.	DVD writer External	02	5000.00
21.	HDD External 160 GB	02	10000.00
22.	PDA (Latest Configration)	02	10000.00
23.	Broadband For Internet(Speed Min. 8mbps)	04	
24.	USB Modem	02	10000.00
25.	Generator 10 KVA Water Coolent	01	100000.00

NOTE : All the above items should be equally distributed in the 2 computer centres

ANNEXURE-QUESTIONNAIRE

INSTITUTE OF RESEARCH,DEVELOPMENT AND TRAINING U.P.KANPUR -208024

SUBJECT: Questionnaire for ascertaining the job potential and activities of diploma holder in Information Technology

PURPOSE: To design and develop Three Year diploma curriculum in Information Technology

NOTE: 1.Please answer the questions to the points given in the questionnaire.
2.Any other point or suggestion not covered in this questionnaire may be written on a separate paper and enclosed with the questionnaire.

1.Name of the organisation:_____

2.Name & Designation of the officer _____
filling the questionnaire _____

3.Name of the department/section/ _____
shop _____

4.Importent functions of the _____
department/section/shop _____

5.Number of diploma holder employees _____
under your charge in the area of _____
Information Technology.

6.Please give names of modern equipments/machines handled by a diploma holder in Information Technology.

- | | | |
|----|----|----|
| 1. | 2. | 3. |
| 4. | 5. | 6. |

7.What proficiencies are expected from a diploma holder in Information Technology.

- | | | |
|----|----|----|
| 1. | 2. | 3. |
|----|----|----|

4.

5.

6.

8. Mention the approximate percentage of the following desired in Diploma teaching.

- 1. Theoretical knowledge -----%
- 2. Practical knowledge -----%
- 3. Skill Development -----%

9. Do you think " on the job training" / Industrial training should form a part of curriculum. (Yes/ No)

if yes then

- (a) Duration of training -----
- (b) Mode of training
 - 1. Spread over different semesters
 - 2. After completion of course
 - 3. Any other mode

10. What mode of recruitment is followed by your organisation.

- 1. Academic merit
- 2. Written test
- 3. Group discussion
- 4. Interview
- 5. On the job test.

11. Mention the capabilities/ Qualities looked for while recruiting diploma holder in Information Technology.

- (a) Technical knowledge -----
- (b) Practical skill -----
- (c) Etiquettes and behaviour -----
- (d) Aptitude -----
- (e) Health, habit and social background -----
- (f) Institution where trained -----

12. Does your organisation have any system for the survey of Home articles of different countries/States. Yes/No

13. Does your organisation conduct field survey to know users views regarding. Yes/No

- 1. Home Articles for different age groups and sex.
 - 2. Effect of climatic conditions
 - 3. Any other
- If yes ; Please give brief account of each.

14. Which type of assignment do you suggest for an entrepreneur in Information Technology.

15. In which types of organisations can a diploma holder in Information Technology can work or serve.

