Paper : 21CAC-2 **Theory/Week:** 3 Hours **Credits:** 3	**FOUNDATION OF INFORMATION TECHNOLOGY**	**Hours:** 30 **IA :** 50 **Exam:** 50

Course Objective:

- To train the student in understanding the computer environment.
- To develop the knowledge in Computer hardware and basics of software with programming gestures.
- To teach the fundamentals of the internet and office software environment where in the student gets working knowledge on the same.

Course outcome:

After the completion of the course students will be able
CO1: To handle the computer hardware issues.
CO2: To handle various memory devices as well as repair the same.
CO3: To install the operating systems and other softwares.
CO4: To work with open office or MS Office.

Module – I **6 Hours**

Introduction to Computers: Introduction, Characteristics of computers, Generations of Computers, Classification of computers, the computer system, Application of computers. **Computer Architecture and Memory:** Introduction, Central processing Module, main memory Module, interconnection of Modules, cache, memory representation, memory hierarchy, Random access memory, Types of RAM, Read-only memory,Types of ROM

Teaching Methodology:
Chalk and Board- Characteristics and Memory architecture.
PPT- Internal parts of CPU and various memories.
Activity based Teaching- Identifying the parts of the system.
Video Lectures- Working of various parts of CPU in sync with each other

Module – II **6 Hours**

Secondary Storage: Introduction, classification, magnetic tape, magnetic disk, Optical disk, Memory stick, Universal serial bus, Mass storage devices. **Input and Output devices:** Introduction, Types of input devices, Optical character recognition, Optical Mark Recognition, Magnetic ink character recognition, Barcode reader, Types of output, Classification of output devices, Terminals.

Teaching Methodology:
Chalk and Board- Storage Hierarchy and their relation with cost and performance.
PPT- Various Storage devices in comparison with each other.
Activity based Teaching- Real life applications of the various input devices.
Video Lectures- Working of various input devices.

Module – III **6 Hours**

Computer Program: Introduction, algorithm, flowchart. **Computer languages and Software:** Introduction, Evolution of programming languages, classification of programming languages, generation of programming languages, Features of a good programming language, software definition, relationship between software and hardware, software categories.

Teaching Methodology:
Chalk and talk- Various shapes used in Flowchart.
Activity based Teaching- Drawing flow chart and writing algorithms for different programs
Video Lectures- Relationship between hardware and software

Module – IV **6 Hours**

Internet Basics: Introduction, Evolution, Basic internet terms, getting connected to internet, internet applications. **Operating System:** Introductions, Functions of operating system, Types of operating System, OS and Utility Software, Introduction to LibreOffice

Teaching Methodology:
PPT- Evolution and Basics of Internet
Activity based Teaching- History of Internet and applications.
Video Lectures- Types of Operating System. Similarities and differences.

Module – V **6 Hours**

Libre Office Writer and Libre Office impress: Introduction, Uses of Libre Office Writer, formatting in Libre Office Writer, Advanced Libre Office writer features, Uses of Libre Office impress, creating slides in Libre Office impress, Creating Animations in Libre Office impress, Hyperlink in Libre Office impress. Libre Office Calc and Libre Office Base: Introduction, uses of Libre Office Calc, manipulating through formula, Adding and working with charts, Analyzing Data, uses of Libre Office Base, creating, altering and inserting values, Queries, reports.

Teaching Methodology:
PPT- Various office softwares
Activity based Teaching- working example of office Software.
Video Lectures- Demo on working with office software.

Text Books

1	ITL Education Solution Limited, Introduction to Information Technology, Pearson Education, 2012.
2	Peter Norton, Introduction to Computers, 7th edition, Tata McGraw Hill Publication, 2011.

3	Anita Goel, Computer Fundamentals, Pearson Education, 2011

Reference Books	
1	Mr. Musa, Abaraham Abaka, Foundation of Information and Communication Technology
2	PritiSinha, Pradeep K., Sinha, Computer Fundamentals : Concepts, Systems & Applications-8th Edition

Continuous Internal Assessment (CIA) Method:

Sl. No	Type of Assessment	Mode of Assessment	Marks
1	Presentation on any topic on the subject	Regular mode of Assessment	10
2	Open Book Examination	Regular mode of Assessment	10
3	Assignments on Topic	Regular mode of Assessment	10
4	MCQ at the end of each module	2 marks for each Module	10
5	Attendance and Extracurricular activity	As per the regulations	10
Total			**50**

Scheme of Evaluation:

The paper carries 100 marks out of which 50 marks will be allotted to external examination and 50 marks will be allotted to the internal assessment.

External examination marks will be as follows

1. 1 marks questions 10 out of 12 1 X 10 = 10 marks.
2. One full question out of 2 full questions in each Module carries 8 X 5 = 40 marks

Total 50 marks.

In order to clear this paper minimum 50% marks must be scored both in internal and well as external examination.

Video Links for the Subject:

1. Module I
   a. https://www.youtube.com/watch?v=VgSbiNRIpic
   b. https://www.youtube.com/watch?v=SsPp_CenDNE
   c. https://www.youtube.com/watch?v=cNN_tTXABUA

2. Module II
   a. https://www.youtube.com/watch?v=uDKBq-3HDUo
   b. https://www.youtube.com/watch?v=6XTLrz9Wd9E
   c. https://www.youtube.com/watch?v=wUHGN-B1tt0

3. Module III
   a. https://www.youtube.com/watch?v=PLPWIPH7KD8
   b. https://www.youtube.com/watch?v=RR4wFP0nro4
   c. https://www.youtube.com/watch?v=_vgKQyiYrKc

4. Module IV
   a. https://www.youtube.com/watch?v=Ij71sDmmKpc
   b. https://www.youtube.com/watch?v=YQZbIT9FcUk
   c. https://www.youtube.com/watch?v=rRQsaFLEEL0

5. Module V
   a. https://www.youtube.com/watch?v=ZXAPCy2c33o
   b. https://www.youtube.com/watch?v=qNbX1qIz1uQ
   c. https://www.youtube.com/watch?v=S-nHYzK-BVg

Paper : 21CAC-2P **Theory/Week:** 4 Hours **Credits:** 2	**LAB ON FOUNDATION OF INFORMATION SYSTEMS**	**Hours: 30** **IA :** 25 **Exam:** 25

Course Objectives:

1. To understand the various Concepts in office software
2. To learn the syntax and semantics of Libreoffice Base and Libre Office Calc.
3. To learn the usage of Office automation.

Course Outcomes:

After the completion of the course students will be able

CO1: To recall and prepare Libreoffice documents.

CO2: To demonstrate to create Presentations by applying various styles.

CO3: To create, modify and manage databases in LibreDatabase.

Experiments: implement the following programs with windows / linux :

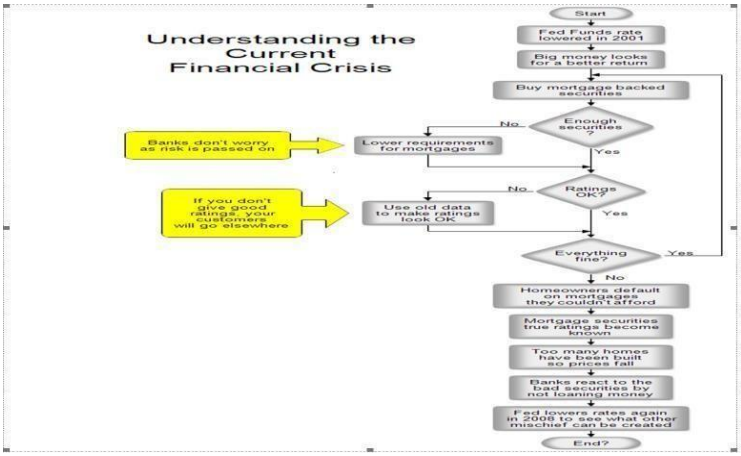
Part-A

Libreoffice writer and libreoffice impress

Prepare a document including following features.

A) inserting picture
B) bulleting and numbering
C) formatting (size,bold.underline,italic,superscript,subscript,colouretc)
D) border and shading,
E) paragraph and line alignment

Draw the following using various drawing tools. (maintain the format same but matter can be changed)



Prepare a document with a table to insert rollno, name, class, marks in 3 subjects of 10 students. Calculate total marks &average . Also find the highest total marks and also the maximum and minimum marks secured in each subject.

Prepare an interview call letter for 5 candidates describing the company and instructions about the

interview. Use mail merge features.

Prepare a resume with the following details

Name, address, objective, summary of qualifications, experience, education , computer skills, languages, activities and hobbies and references as in the given format.

Sample Resume
Table Format

YOUR NAME
100 Tree River Lane, Anytown, CA 12345 • 111-222-3333 • name@gmail.com

OBJECTIVE
A [type or title of position] position in the [name of industry] industry where my expertise in [area 1] and [area 2] would be needed

SUMMARY OF QUALIFICATIONS
Senior Level Technical Manager with 15 years of management experience, a Masters degree in Mechanical Engineering, and 10 years as design engineer in the auto industry.
- Consider listing qualifications using bullets
- Especially skilled at [skill 1], [skill2], [skill 3]…
- Proven ability to … A talent for … Skilled in … Extensive knowledge of …
- Expertise in [skill 1, skill 2, skill 3]

EXPERIENCE

Company Name, Location — 2005 to Present
Position
- Taught …
- Supervised …
- Increased sales by …

Company/Organization, Location — 2003 to 2005
Position
- Organized …
- Developed …

Company/Organization, Location — 2000 to 2003
Position
- Prepared …
- Conducted …

EDUCATION

M.S. Electrical Engineering, University Name, Location — May 2000
Thesis: "Title", Advisor: Name

B.S. Electrical Engineering, University Name, Location — May 1998
Minored in Mathematics
Major GPA: 3.6/4.0 Overall GPA: 3.2/4.0

COMPUTER SKILLS
- Java, Visual Basic, C++, PHP
- MS Excel, Word, PowerPoint
- MS Access, MySQL, Oracle
- AutoCAD, SolidWorks
- MATLAB, Mathematica
- Windows, Linux, Mac OS

LANGUAGES
English: Native language
Spanish: Intermediate Listener, Novice Speaker, Advanced Reading and Writing

ACTIVITIES AND INTERESTS
Scoutmaster (Eagle Scout), Amateur radio (N7ABC), Gardening, Mountain biking, Carpentry, Computers, Cycling, Hiking

REFERENCES
Available upon request

Prepare a presentation with at least 5 slides and picture, chart and other contents for the following matters. Apply various transitions and animations. Slides should be moved automatically and repeatedly about **details of your college.**

A simple quiz program , or a seminar. Use diagrams. Use hyperlinks to move to another slide in the presentation (to display answers) , or to open another file (to display more details for seminar).

Prepare a presentation with at least 5 slides and picture, chart and other contents for the following matters. Apply various transitions and animations. Slides should be moved automatically and repeatedly about about bca course

Part-B

Libre office base and libre office calc exercises

(note: insert 5 records for each exercise in such a way to get the result for all the queries.)

1. Create a student table with the following details
student no (primary key), name, address, class, marks1, marks2, marks3. Find the **total** and **average** of all the students
Execute following queries
A). List all the records belonging to i bca class
B). Extract all the records where average >50
C). Extract all records where total is in between 200 to 275

2. Create a item table with the following details
Item no (primary key), name, brand, quantity purchased, quantity sold and rate per Module.
Findthe **total items** in stock.
using the above table . Execute following queries
a) list all the items with quantity purchased more than 100 and rate per Module is rs. 75
b) extract all the records of a particular item (same item name can be there with various brands)
c) extract all records where total items in stock at present is less than 50 or quantity sold more than 500.

3. Create a employment data having employees no, employees name, doj, designation and basic pay of employees. Calculate **d.a ,h.r.a, gross pay , income tax, net pay , provident fund** as per the rule. D.a= 10% of basic pay
H.r.a= if basic pay is <2500 h.r.a =10% of basis pay else h.r.a is 25% of basic pay
Gross =d.a +h.r.a+ basic pay
Provident fund =12% of basic pay
Professional tax= rs. 100 if gross is <10000 else 200rs.
Netpay = gross - (professional tax + provident fund)
Using employee table execute following queries
a)select a employee record who are drawing not more than 5000 gross salary

B) select a employee records from the table whose doj is after july 1st 1995

4. Create a worksheet to maintain students information such as rollno, name, class, marks in 3 subjects of 10 students. Calculate total marks ,average and grade. Find grade for distinction, firstclass, second class, pass and fail using normally used conditions.

   Using custom sort, sort the data according to class :- distinction first, first class next , and so on. Within each class, average marks should be in descending order. Also draw the column chart showing the roll no versus average scored.

5. Prepare a worksheet to store details of electricity consumed by the customers. Details are customer no, meter no, previous meter reading, current meter reading.

calculate **total no of Modules** consumed and **total amount** to be paid by each consumer the condition is
If the Module consumed is <=150 charge is
200.for the next 50 Modules rs 1.50 per
Module
for the next 100 Modules charge = rs2.00/ Module
for the next additional Modules charge is rs 3.00 per Module or rs 500 whichever is maximum.
Use data validation to see that current reading is more than previous reading
Arrange the records in the alphabetic order of names. Filter the records whose billamount is more than rs. 800.
. Create a employment data having employees no, employees name, doj, department, designation and basic pay of employees. Calculate d.a ,h.r.a, gross pay, prof. Tax, net pay , provident fund as per the rule.
d.a= 10% of basic pay
h.r.a: if basic pay is <2500 h.r.a =10% of basis pay else h.r.a is 25% of basic pay
gross =d.a +h.r.a+ basic pay
provident fund =12% of basic pay
professional tax= rs. 100 if gross is <10000 else 200rs.
Netpay = gross - (professional tax + provident fund)
.Prepare individual pay slips of (at least 3) employees in another worksheet

Using the pivot table, display the no of employees in each department and represent it using a pie chart.

7. Create a table containing the percentage of commission to be given to a sales man in different zones as follows.

zone	percentage
south	10%
north	12.5%
east	14%
west	13%

create another table in the same worksheet to store the salesman name, zone name, place, name of the item sold, rate per Module ,quantity sold .calculate total sales amount of each salesman. Referring to the above table, write the formula to compute the commission to be given.

Using advanced filtering shows the result in various parts of the worksheet.

- show the records of various zones separately..
- show the records of only east and west zones.
- display the details of the items sold more than 50 in south or north zones.

Continuous Internal Assessment (CIA) Method:

Sl. No	Type of Assessment	Mode of Assessment	Marks
1	Observation Book	Regular mode of Assessment	5
2	Lab Internal	Regular mode of Assessment	10
3	Record	Regular mode of Assessment	5
4	Attendance		5
Total			**25**

SCHEME OF EXAMINATION FOR END SEMESTER EXAMINATION OF 5O MARKS:

Two experiments, one from each part are to be performed by the students in the examination.

Sl. No	Type of Assessment	Mode of Assessment	Marks
1	Part –A	Regular mode of Assessment	10
2	Part –B	Regular mode of Assessment	10
3	Viva	Regular mode of Assessment	5
Total			**25**

Web links and Video Lectures (e-Resources):

1. https://youtu.be/4RiUYjIZEug
2. https://youtu.be/bgO40-CjYNY
3. https://youtu.be/ag8pSTF-Lao
4. https://youtu.be/XsEGn5YSUws