हेमचंद यादव विश्वविद्यालय, दुर्ग (छ.ग.)

(पूर्व नाम- दुर्ग विश्वविद्यालय, दुर्ग)

रायपुर नाका दुर्ग (छ.ग.)-491001

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क्र. 3861 /अका./2021 दुर्ग, दिनांक 30/7/21

प्रति,

प्राचार्य,

समस्त संबद्ध महाविद्यालय,

हेमचंद यादव विश्वविद्यालय,

दुर्ग (छ.ग.)

विषयः— स्नातक स्तर भाग–तीन के पाठ्यक्रम विषयक।

संदर्भः— संयुक्त संचालक, उच्च शिक्षा विभाग के पत्र क्र. 2456/315/आउशि/सम/2019, दिनांक 16.05. 2019।

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विषयांतर्गत लेख है कि संदर्भित पत्र के माध्यम से प्राप्त स्नातक स्तर भाग–तीन के निम्नलिखित कक्षा/विषयों के परिवर्तित/संशोधित पाठ्यक्रम शिक्षा सत्र 2021–22 से लागू किये जाते हैंः—

1. बी.ए. — आधार पाठ्यक्रम – हिन्दी भाषा, हिन्दी साहित्य, राजनीतिशास्त्र, अर्थशास्त्र, नृत्य, दर्शनशास्त्र, समाजशास्त्र, इतिहास, मानवविज्ञान, संस्कृत, सांख्यिकी प्राचीन भारतीय इतिहास, भूगोल, मनोविज्ञान
2. बी.एस–सी. — आधार पाठ्यक्रम–हिन्दी भाषा, जीव विज्ञान, मानवविज्ञान, बायोटेक्नोलॉजी, कम्प्यूटर साईंस, गणित, भौतिक शास्त्र, प्राणीशास्त्र, सूक्ष्मजीव विज्ञान, वनस्पतिशास्त्र, भूविज्ञान, इलेक्ट्रॉनिक्स, रसायन शास्त्र, सांख्यिकी, भूगोल।
3. बी.ए./बी.एस.सी (गृह विज्ञान) — आधार पाठ्यक्रम – हिन्दी भाषा एवं गृह विज्ञान।
4. बी.सी.ए. — भाग–3
5. बी.कॉम. — भाग–1, भाग–2 एवं भाग–3 का परिवर्तित पाठ्यक्रम सत्र 2019–20 में जारी कर लागू किया जा चुका है।

कृ.प.उ.

उपरोक्त विषयों को शिक्षा सत्र 2021–22 से संशोधित रूप में स्नातक स्तर भाग–तीन के लिए लागू किया जाता है स्नातक स्तर भाग–एक हेतु सत्र 2019–20 एवं स्नातक स्तर भाग–दो हेतु सत्र 2020–21 में लागू पाठ्यक्रम मान्य होंगे।

टीपः– परिवर्तित/संशोधित पाठ्यक्रम विश्वविद्यालय की वेबसाईट पर उपलब्ध है।

कुलसचिव

क्र. 3862 /अका./2021 दुर्ग, दिनांक 30/7/21

प्रतिलिपिः–

1. संयुक्त संचालक, उच्च शिक्षा विभाग के पत्र क्र. 2456/315/आउशि/सम/2019, दिनांक 16.05.2019 के परिपेक्ष्य में सूचनार्थ
2. उपकुलसचिव, परीक्षा विभाग एवं उपकुलसचिव, गोपनीय विभाग हेमचंद यादव विश्वविद्यालय, दुर्ग।
3. वेबसाईट प्रभारी, वेबसाईट पर पाठ्यक्रम प्रकाशित करने हेतु।
4. कुलपति के निज सहायक एवं कुलसचिव के निज सहायक, हेमचंद यादव विश्वविद्यालय, दुर्ग।

सहा. कुलसचिव (अका.)

SCHEME OF EXAMINATION 2021-2022
BCA PART- III

Subject Code	Subject Paper	Theory Marks		Internal Marks		Teaching Load per week		
		Max. (A)	Min. (B)	Max. (C)	Min. (D)	L	T	P
BCA 301	Statistical Analysis	80	27	20	8	4	2	-
BCA 302	Programming in Python	80	27	20	8	4	2	-
BCA 303	Dot Net Technology	80	27	20	8	4	2	-
BCA 304	Software Engineering	80	27	20	8	4	2	-
BCA 305	Data Structure	80	27	20	8	4	2	-
BCA 306	Computer System Architecture	80	27	20	8	4	2	-
BCA 307	LAB VII : Programming in Python	100	50	40	16	-	-	3x2
BCA 308	LAB VIII : Dot Net Technology Lab	100	50	40	16	-	-	2x2
BCA 309	Project	100	50	20	8	-	-	1x2
Total		**780**	**312**	**220**	**88**			
GRAND TOTAL	**(PAPER + INTERNAL)**	**(A+C) 1000**		**(B+D) 400**				

- **Student will have to pass individual in all theory, practical and sessional.**

Statistical Analysis
Subject Code-BCA-301

Max Marks: 80 **Min Marks: 27**

Note: The question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only simple calculators allowed not scientific calculator.

UNIT-I

COMBINATORICS : Permutation and Combination, Repetition and Constrained Repetition, Binomial Theorem.

UNIT-II

Frequency distribution, Histogram and frequency polygons, Measures of central tendency: Mean, Mode, Median, Dispersion, Mean deviation and standard, deviation Moments, Skewness, kurtosis.

UNIT-III

Elementary probability theory: Definition, conditional probability, Probability distribution , mathematical expectation.

Theoretical distribution: Binomial, Poisson and Normal distribution, relation between the binomial, poisoned Normal distribution.

UNIT-IV

Correlation and Registration: Linear Correlation, Measure of Correlation, Least Square Regression lines.

Curve fitting: Method of least square, least square line, least squares Parabola. Chi-square test: definition of chi-square; signification test: contingency test, coefficient of contingency.

UNIT-V

Basics of sampling theory: sample mean and variance, students t-test, test of Hypotheses and significance, degree of freedom, Z-test, small and large sampling, Introduction of Monte Carlo method.

Text books:

1. Advanced Engineering Mathematics: H,K, Dass; S, Chand & Co.9 Revised Edition, 2001
2. Discrete Mathematics: S.K. Sarkar; S. Chand & Co. 2000.

3. Numerical Analysis: S.S. Sastry; Prentice Hall of India, 1998.

4. Mathematical Statistic: J.N. Kapoor and H.C. Saxena.

5. Mathematical Statistic: M. Ray and H. Sharma

PROGRAMMING IN PYTHON
Subject Code-BCA-302

Max Marks: 80 **Min Marks: 27**

Note: The question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Outcome: At the end of course, Student will able to

- Define the Structure and Components of a Python Program.
- Demonstrate proficiency in handling of loops and creation of functions. Identify the methods to create and manipulate lists, tuples and dictionaries.
- Discover the commonly used operations involving regular expressions and file systems.
- Determine the need of scrapping website and working with CSV, JSON and other file formats.
- Interpret the concepts of Object-Oriented Programming as used in Python.

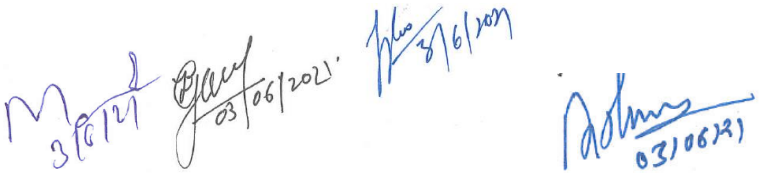
Unit 1 : Introduction to Python :- Installing Python, basic syntax, interactive shell, editing saving and running a script; The concept of data types, variables, assignments; immutable variables; numerical types, operators(Arithmetic Operator, Relational Operator, Logical or Boolean Operator, Assignment Operator, Ternary Operator, Bitwise Operator, Increment or Decrement Operator) and expressions; comments in the program, understanding error messages.

Unit-2:- Creating Python Programs: - Input and Output Statements, Control Statements (Branching, Looping, Conditional Statement, Exit function, Difference between break, continue and pass).
Function: Defining a function, calling a function, types of function, Function Arguments, Anonymous Functions, global and local variables, Recursion

Unit-3:- Strings and Text Files: - Manipulating files and directories, os and sys modules, text files: reading/writing text and numbers from/to a file, creating and deleting a formatted file (csv or tab-separated).
String Manipulations: subscript operator, indexing, slicing a string; strings and number system: converting string to numbers and vice-versa, Binary, octal and hexadecimal numbers.

Unit-4 :- Lists, Tuples and Dictionaries :- Basic list operators, replacing, inserting and removing an element, searching and sorting lists, Accessing tuples, Operations, Working Functions and Methods, dictionary literals, Adding and Removing keys, accessing and replacing values, traversing dictionaries.
Data Structures using Lists: Elementary Data Representation- Linear List Array, Stacks, Queues, Linked Lists, and Trees.

Unit-5:- Modules: - Importing module, Math module, Random Module, packages, Composition, **Exception Handling:** Exception, Exception Handling, except clause, try, finally clause, User-Defined Exceptions.



TEXT REFERENCE BOOKS:

1. T. Budd, Exploring Python, TMH, 1st Ed, 2011
2. Allen Downey, Jeffrey Elkner, Chris Meyers, How to think like a computer scientist: Learning with Python, Freely available online, 2012
3. Luca Massaron John Paul Mueller, Python for Data science For Dummies, Wiley,2ed,2019
4. https://docs.python.org/3/tutorial/index.html
5. http://interactivepython.org/courselib/static/pythonds

Dot Net Technology
BCA 303

Max Marks: 80 **Min Marks: 27**

Note: The Question Paper Setter is advised to prepare unit-wise question with the provision of internal choice.

Unit -I Inside the .Net Framework

Overview of .Net framework, Features of .Net, CLR, Common Language Specification, JIT compilation, MSIL, Namespace, FCL, Assemblies, Common Type System, Cross-Language Interoperability, Garbage Collection.

Unit -II Programming with VB.Net

Data types of variables, Constant, Type Conversions, Operators, Control Structure: Conditional Statement, loops (Do...loop, for loop, while loop, for each.... Next loop), arrays, Declaring arrays and dynamic arrays, Types, Structure, Enumeration, Sub Procedure, Functions.

Unit -III Windows Forms:

Windows Forms: Working with visual Studio IDE ,creating a .NET Solution, simple forms, MDI forms, windows forms: Control class, TextBox, Richtextboxes, Labels, Button, Checkbox , Radio Button, Panels, Group box, Listbox, Checked list box, Combobox , Picture box, Timer, Scrollbar, Timer, Trackbar, Progress bar. Message box, Function, Message Box. Show Method, Input box function, Creating MDI application. Menus, creating Menu, sub menu items, Context menu.

Unit -IV OOPS concept

Class and objects, creating classes, objects, creating data member, creating class shared data member, shared methods, shared properties , overloading methods and properties, with statement, constructor, Destructor (using finalize method), inheritance, overriding base class member, inheriting constructor, overloading base class member.

Unit -V Database Programming

Database concept, Ado.net Architecture, .Net Data Provider (Connection class: OledbConnection, SQL Connection, Command class: SQL command class, OleDbCommand class, Data Adaptor class, Data Reader class), Dataset Component, Creating Database application using windows forms (DB connectivity through ADO.net), accessing data from database, navigate in data, working with Data Grid.

BOOKS RECOMMENDED:

- MSDN online- By Microsoft.
- Visual Basic.NET Complete- BPB Publications, New Delhi.
- The Complete Reference VB.NET –Jeffery R. Shapiro, Tata McGraw Hill.
- Visual Basic.NET Programming Black Book-Steven Holzner by Dreamtech Press.

Software engineering
Subject code -BCA -304

Max Marks: 80 **Min Marks: 27**

Note: The question paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

Unit-I

Software Engineering Fundamentals: Definition of software product; software development paradigms; software engineering; knowledge engineering and end user development approaches.

Software Analysis:

Abstraction; partitioning and projection; system specification; software requirements specification (SRS) standards; formal specification method; specification tools; flow based, data based and object orientated analysis.

Unit-II

System design: Idealised and constrained design; process oriented design (Gane and Sarson and Yourdon notations); data oriented design (Warnier-(Orr, E-r modeling); Object oriented design (Booch approach); Cohesion and coupling; Design metrics; design documentation standards.

Unit-III

Role of Case Tools: Relevance of case tools; High-end and Low-end case tools; automated support for data dictionaries, data flow diagrams, entity relationship diagrams.

Coding and Programming: Choice of programming languages; mixed language programming and call semantics; Re-engineering legacy systems; coding standard.

Unit -IV

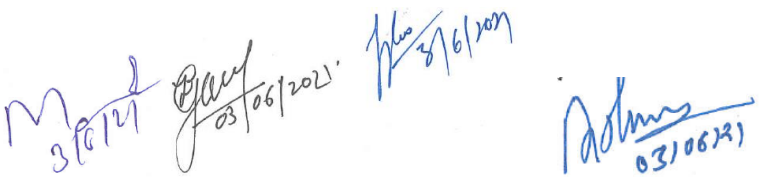
Software Quality and Testing: Software quality assurance; types of software testing (white box, black box, unit, integration, validation, system etc); debugging and reliability analysis; program complexity analysis; software quality and metrics; software maturity model and extension. Software cost and Time estimation. Functions points; issue in software cost estimation; introduction to the Rayleigh curve 3; Algorithm cost model (COCOMO, Putnam-slim, Watson and feliix).

Unit -V

Software Project Management: Planning software projects; work background structure; integrating , software design and project planning ; software project teams; project monitoring and controls.

RECOMMENDED BOOKS:

1. Software Engineering: A Practitioner's Approach - By Essman Roger, Tata McGraw Hill.
2. An Integrated Approach To Software Engineering- By Jalote Pankaj, Narosa: New Delhi.



Data Structure
Subject Code-BCA-305

Max Marks: 80 **Min Marks : 27**

Note: The question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only simple calculators allowed not scientific calculator.

UNIT-I INTRODUCTION-

Introduction, Basics terminology, Elementary data organization, Data structure, Data structure operation, Algorithms: complexity, time space Tradeoff. Mathematics Notation and functions, Algorithmic Notation.

UNIT-II

CONCEPTS OF ARRAYS, RECORDS AND POINTERS-

Basic Terminology, Linear Array; Single Dimensional Array, Multidimensional Array, Static Array, Dynamic Array; **Pointers:** Introduction of Pointer, **Records:** Record structures.

UNIT-III

LINKED LISTS, STACKS, QUEUES, RECURSION-

Link lists, Traversing a linked list, searching a linked list; Insertion into a linked List, Deletion from a Linked List, Stacks, Array Representation of stack; Queues.

UNIT-IV

TREES-

Binary Trees, Representing Binary Trees in Memory, Traversing binary tree, Traversal Algorithms using stacks, header nodes; threads, Binary search Tree, Searching and Inserting in Binary search Tree, Deleting in Binary Search tree.

UNIT-V

SORTING AND SEARCHING-

Sorting: Bubble Sort, Quick Sort, Insertion Sort, Selection Sort, Merge Sort; **Searching:** Liner Search, Binary Search, Searching and data modification, Introduction to hashing.

BOOKS RECOMMENDED:

1. Data structure -Seymour Lipschutz (Schaum's Series).
2. Data structure & Program design -Robert L. Kruse, 3rd Ed., Prentice Hall.

Computer System Architecture
Subject Code - BCA-306

Max Marks : 80 **Min Marks : 27**

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

UNIT I

Data Representation - Data Types, Number System, Fixed Point Representation - I's, 12 complement, Binary Fixed point representation, Arithmetic operation on Binary operation Overflow & Underflow, Codes, ASCII, EBCDIC codes. Grey codes, Excess-3, BCD codes Error detection & correcting codes.

UNIT II

Digital Logic Circuits - Logic Gates AND, OR, NOT, Gates & their truth tables, NOR, NAN XOR Gates, Boolean algebra, Basic Boolean Law, Demerger's theorem, Map Simplification minimizing technique, K Map, Sum of products, Product of sums, Combinational & sequent circuits Half adder & Full adder, Full Subtractor , Flip Flop - RS, D, JK & T Flip Flop, Shift register, RAM & ROM.

UNIT III

CPU organization, ALU & control circuit, Idea about arithmetic circuits, Program control Instruction sequencing, Introduction to Microprocessor, System buses, Registers, Program counter, Block diagram of a Macro computer system, Microprocessor control signals, Interfacing devices , Introduction to Motherboard, SMPS

UNIT IV

Input output organization, 1/0 Interface, Properties of simple I/O devices and their Controller isolated versus Memory mapped 1/0, Modes of Data transfer, Synchronous & Asynchronous Transfer, Handshaking, Asynchronous serial transfer, I/O processor

UNIT V

Auxiliary memory - Magnetic drum, Disk & Tape, Semiconductor memories, Memory hierarchy, Associative memory, Virtual memory, address space & memory space, Address mapping , Page table, Page replacement, cache memory, Hit ratio, Mapping Techniques, Writing cache.

REFERENCE:

1. Computer System architecture -- M. Morris Mano
2. Computer Architecture and Organization- Nicholas P Carter, Schaum's Outlines
3. Computer Organization and Architecture William Stallings

PRACTICAL WORK

BCA307- LAB VII: PYTHON PROGRAMMING LAB

Course Outcome: At the end of course, Students will be able to

- Learn the Numbers, Math functions, Strings, List in Python.
- Learn the tuples and dictionaries in Python.
- Demonstrate proficiency in handling of loops and creation of functions.
- Identify the methods to create and manipulate lists, tuples and dictionaries.
- Express different decision making statements and functions.

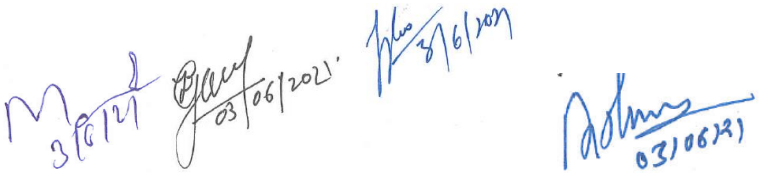
1 scheme of Examination: Practical Examination will be of 3 hours duration. The distribution of practical marks is as follows:

Program 1	**-**	**20**
Program 2	**-**	**20**
Program 3	**-**	**20**
Viva	**-**	**20**
(Practical Record + Internal Record)	**-**	**20**
	Total	**100**

List of Practical

1. Write a program that reads an integer value and prints —leap year or —not a leap year.
2. Write a program that takes a positive integer a and then produces n lines of output shown as follows.
3. Write a program to create the following Pattern
   For example enter a size: 5 -
   *
   **
   **
   ****
   *****
4. Write a function that takes an integer n as input and calculates the value of 1 + 1/1! + 1/2! + 1/n!
5. Write a function that takes an integer input and calculates the factorial of that number,
6. Write a function that takes a string input and checks if it is a palindrome or not.
7. Write a list function to convert a string into a list, as in list (-abc) gives [a, b, c].
8. Write a program to generate Fibonacci series.
9. Write a program to check whether the input number is even or odd.
10. Write a program to compare three numbers and print the largest one.
11. Write a program to print factors of a given number.
12. Write a method to calculate GCD of two numbers.
13. Write a program to create Stack Class and implement all its methods, (Use Lists).
14. Write a program to create Queue Class and implement all its methods, (Use Lists)
15. Write a program to implement linear and binary search on lists,
16. Write a program to sort a list using insertion sort and bubble sort and selection sort.

Note: List of experiments may be changed by the concerned teacher.



PRACTICAL WORK

BCA308- LAB VIII: Dot Net Technology Lab

1 scheme of Examination: Practical Examination will be of 3 hours duration. The distribution of practical marks is as follows:

Program 1	**-**	**20**
Program 2	**-**	**20**
Program 3	**-**	**20**
Viva	**-**	**20**
(Practical Record + Internal Record)	**-**	**20**
	Total	**100**

List of Practical

1 Write a program to find maximum between three numbers.

2 Write a program to check whether a number is negative, positive or zero.

3 Write a program to check whether a year is leap year or not.

4 Write a program to check whether a character is alphabet or not.

5. Write a program to find all roots of a quadratic equation

6 Design an application to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade

Percentage > 90% : Grade A
Percentage >= 80% : Grade B
Percentage > 70% : Grade C
Percentage >60% : Grade D
Percentage >= 40% : Grade E Percentage < 40%: Grade F

7. Design an application to input basic salary of an employee and calculate its Gross salary following:

Basic Salary <= 10000: HRA = 20%, DA = B0%
Basic Salary <n20000: HRA = 25%, DA = 90%
Basic Salary > 20000 : HRA = 30%, DA = 95%

8. Design an application to input electricity unit charges and calculate the given condition:

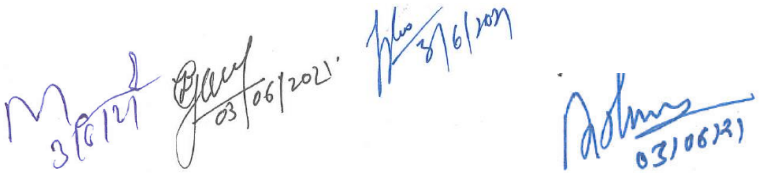
For first 50 units Rs. 0.50/unit
For next 100 units Rs. 0.75/unit
For next 100 units Rs. 1.20/unit
For unit above 250 Rs. 1.50/unit
An additional surcharge of 20% is added to the bill

9 Write a program to convert decimal to binary number system using bitwise operator.

10. Write a program to swap two numbers using bitwise operator

11 Write a program to create Simple Calculator using select case.

12 Write a program to find sum of all natural numbers between 1 ton



13 Write a program to find first and last digit of any number

14. Write a program to enter any number and print its reverse.

15 Write a program to enter any number and check whether the number is palindrome or not.

16 Write a program to check whether a number is Armstrong number or not

17 Write a program to print Fibonacci series up to n terms.

18 Write a program to print Pascal triangle up to n rows.

19 Write a program to print all negative elements in an array.

20 Design a digital clock using timer control

21 Design an application that accepts the item name from the user and add it to a list box and combo box.

22 Create an application that offers various food items to select from check boxes and a mode of payment using radio button. It then display the total amount payable.

23 Create an application to implement the working of Context menu on textbox

24 WAP to illustrate all functionalities of list box and combo box.

25 WAP using check names for the following font effects

- Bold
- Italic Underline
- Increase Font size
- Decrease Font size
- Font Color

26 WAP for temperature conversion using radio button.

27 WAP to launch a rocket using Picture Box and Timer control

28 WAP to change the back color of any control using scroll box.

29 WAP to search an element for one dimensional array.

30 Design a menu such that it contain submenu such as Addition, Subtraction, Scalar Multiplication, Transpose of two metrics.

31 WAP to find greatest among three given number using user define procedures.

32 WAP to calculate factorial of a number using user define procedure. 32. WAP to check whether given number neon or not using user define function

33 WAP to check whether a given number is Niven or not using procedure.

34 WAP to check whether a given number is duck number or not

35 WAP to check whether a given number is spy number or not.

36 WAP to check whether a given number

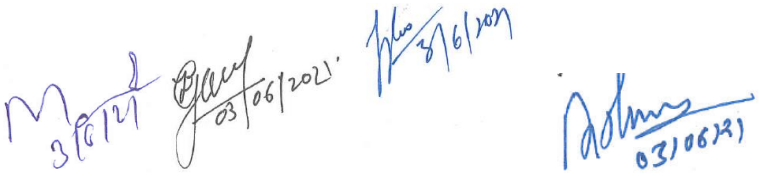
37 Design the following application using radio button and checkbox:

38 Design an application to create the Payroll form shown below. Number of hours well as the appropriate rate.

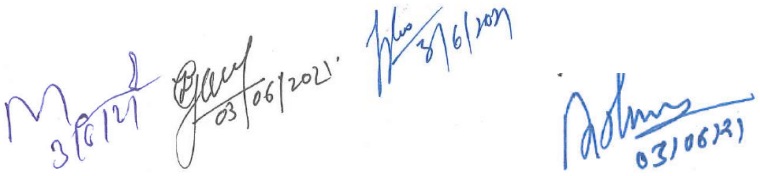
Gross salary = rate* hours.

Net salary = gross salary - deductions.

39 Develop an application which is similar to notepad using menus.



40. Develop an application for facilitating purchasing order
41. Develop an application for billing system in coffee shop
42. Develop an application which is similar to login form
43. Define a class account include following data members: Name of the depositor account no, type of Account, balance amount, Member Functions: To deposit an amount, To withdraw an amount after checking balance, to show balance also provide proper validation wherever necessary write a main program to test above class
44. Develop a project which display the student information in the relevant field from the database which already exist
45. Define structure student structure student has written member for storing name roll number name of three subjects and marks with member function to store and print data.
46. Write a class having name calculate the use uses static overloaded function to calculate area of circle area of rectangle and area of triangle.
47. Create a class account that stores customer name account number and type of account from this device the classes cur_acct and sav_acct to make them more specific to their requirements include necessary member function in order to achieve the following task:
a) Accept deposits from customer
b) Display the balance
c) Customer and deposit interest
d) Permit withdrawal and update the balance
e) check for the minimum balance impose penalty necessary and update the balance
48 create a class circle with data member radius provide member function to calculate area driver class fare from class circle provide member function to calculate volume derived class cylinder from class is fair with additional data member for height and member function to calculate volume
49. consider an example for declaring the examination result design 3 classes student exam result the student class has data member such as representing roll number name of subject create the class exam which contain the data member representing name of subject minimum marks maximum marks obtained marks for 3 subject derived class result from both students and exam classes test the results class in main function
50. write a program that implement the concept of encapsulation
51. write a program to demonstrate concept of polymorphism function overloading and constructor overloading
52. Create a class student having data member to store roll number name of the student name of three subject Max marks, Min marks, obtained marks. Declare an object of class student. Provide facilities to input data in data members and display result of students.
53. Create a class student having data members to store roll number name of Student name of a subject Max marks, min marks, obtained marks declare array of object to hold data of three students. Provide facilities to display result of all students provide also facility to display the result of specific student whose roll number is given.
54. Create a class array having an array of integer having five elements at data member provide following facilities:
a) constructor to get number in array element
b) sort the elements



c) find the largest element
d) search the present of particular value in an array element.
55. Write a program to display records of table using eing data adaptor and code for items buttons to move at first record next record previous record last record in the table.
56. Create a table for employee write a program using data set to add delete edit and navigate records.
57. Write a program to access a database using ado.net and display key column in the combo box or list box when an item is selected in it its corresponding records is shown in data grid control.

PRACTICAL WORK
BCA309- PROJECT

1 Scheme of Examination: The Project should be done by individual student. Practical Examination will be of 3 hours duration. The distribution of practical marks is as follows:

Software Demonstration	- 40
Project Report (Hard Copy + Soft Copy)	- 20
Project Demonstration/Presentation	- 20
Project Viva	- 20
Total	**- 100**

2. Format of the student project report on completion of the project

- Cover page as per format
- Certificate of Approval
- Certificate of project guide/Center Manager
- Certificate of Evaluation
- Declaration / Self certificate
- Acknowledgement
- Synopsis of the project
- Main Report
    - Objective & Scope of the project
    - Theoretical Background of Project
    - Definition of problem
    - System Analysis & Design
    - System Planning (PERT Chart)
    - Methodology adopted, system Implementation & details of Hardware & Software used
    - System maintenance & Evaluation
    - Cost and Benefit Analysis
    - Detailed Life Cycle of the project
        - ERD, DFD
        - Input and Output Screen Design
        - Process involved
        - Methodology used for testing
        - Test Report, Printout of the code sheet
    - User/Operational Manual – including security aspect, access rights, backup control etc.
    - Conclusion
    - References
    - Soft copy of the project on CD

Formats of various certificates and formatting styles are as:

1. **Project report Cover Format:**

A
Project Report
On
Title of the Project report
(Times New Roman, Italic , Font Size=24)

Submitted in partial fulfillment of the requirements for the award of degree
Bachelor of Computer Application
From
Hemchand Yadav Vishwavidyalaya, Durg (C.G.)
(Bookman Old Style, 16point, Center)
Year : xxxx

Logo of College

Guide
(Guide Name)

Submitted by:
(Student's Name)
Roll No.

Submitted to
(College name)
Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

2. **Certificate of Approval by Head of Department in letter head**

CERTIFICATE OF APPROVAL

This is to certify that the Project work entitled "_____" is carried out Mr/Ms/Mrs _____. A student of BCA-III year at **(College Name)** is hereby approved as a credible work in the discipline of Computer Science and Application for the award of degree of **Bachelor of Computer Application** during the year_____ from **Hemchand Yadav Vishwavidyalaya, Durg (C.G.).**

.

(Head Name)

3. **Certificate from the Guide in letter head**

CERTIFICATE

This is to certify that the Project work entitled "_____" Submitted to the **(College Name)** by Mr/Ms/Mrs _____ Roll No _____, in partial fulfillment for the requirements relating to nature and standard of award of Bachelor of Computer Application degree by, **Hemchand Yadav Vishwavidyalaya, Durg (C.G.)** for the academic year 20__ -20__.

This project work has been carried out under my guidance.

(Guide Name)

4. **Certificate of the company or Organization from where the Project is done from the Project Manager or Project guide.**
5. **Certificate of evaluation in the department letter head**

CERTIFICATE OF EVALUATION

This is to certify that the Project work entitled "_____" is carried out Mr/Ms/Mrs _____, a student of BCA-III year at **(College Name),** after proper evaluation and examination, is hereby approved as a credible work in the discipline of Computer Science and Application and is done in a satisfactory manner for its acceptance as a requisite for the award of degree of **Bachelor of Computer Application** during the year_____ from **Hemchand Yadav Vishwavidyalaya, Durg (C.G.).**

Internal Examiner **External Examiner**

6. **Declaration of Student/Self Certificate**

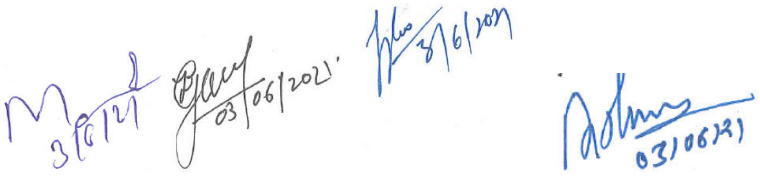
DECLARATION

This is to certify that the Project work entitled "_____", which is submitted by me in partial fulfillment for the award of degree of **Bachelor of Computer Application, (College Name),** comprises the original work carried out by me.

I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full for the award of any other degree or diploma in this Institute or any other Institute or University.

Place :
Date :

(Name)
(Roll No)



7. Acknowledgement

In the "Acknowledgement" page, the writer recognizes his/her indebtedness for guidance and assistance of the thesis/report adviser and other members of the faculty. Courtesy demands that he/she also recognize specific contributions by other persons or institutions such as libraries and research foundation. Acknowledgements should be simple, tastefully and tactfully.