GIRRAJ GOVT COLLEGE (A), NIZAMABAD

(COLLEGE WITH POTENTIAL FOR EXCELLENCE)

B.O.S-2019-20

DEPARTMENT OF COMPUTER SCIENCE

PROCEEDINGS OF THE PRINCIPAL, GIRRAJ GOVT.COLLEGE(A)

Present: Sri K.DUBBA RAJAM, M.sc

Lr. No.   / GGC-Nzb. / Comp. Sc / BOS – 2019-20 / dated   -09-2019

Sub.: constitution Board of studies members for the Dept.of Computer Science- Girraj Govt. College (A), Nizamabad.

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ORDERS:

The following persons from Telangana University,Girraj govt.College are included as members for the Board of Studies in the department of computer science,Girraj Govt College(A),Nizamabad .The constitution of the BOS Members from this academic year i.e. 2019-20.

1.Smt.Dr.Ch.Arathi

Assoc..Prof. Computer Science Dept &
Chair person B.O.S.,(University Nominee)
Telangana University,
Dichpally,Nizamabad.

2. Sri N. Raja

Asst.Prof in Physics &
Chairman B.O.S.,Comp.Sci Department,
Girraj Govt.College(A),Nizamabad.

3. Sri N. Ramesh goud

Asst.Prof in History & Executive Member & Chairman
B.O.S.-B.A.(CA)
Girraj Govt.College(A),Nizamabad.

4. Sri V.Subhash

Lecturer & HOD of Comp.Sci
Goutami Degree & PG College, Nizamabad.

5. All staff members
Of the Computer Science .Dept

Copy to
1. Chairperson BOS,TU,NZB
2.Chairperson BOS,GGC,NZB
3.Individual
4. All Members ,Dept .of.Comp.Sci

PRINCIPAL
Girraj Govt. College (Autonomous)
Nizamabad

GIRRAJ GOVERNMENT COLLEGE (A), NIZAMABAD
DEPARTMENT OF COMPUTERS SCIENCE
BSC COMPUTER SCIENCE
CBCS (With effect from 2019-20)

Semester -I			
Course Title	**H/Week**		**Credits**
	Th	Pr	
Programming in C	4	3	4+1 = 5
Semester –II			
Programming in C++	4	3	4+1 = 5
Semester –III			
Data Structures using C++	4	3	4+1 = 5
Semester –IV			
Data Base Management Systems	4	3	4+1 = 5
Semester –V			
Programming in Java	4	3	4+1 = 5
Semester –VI			
Web Technologies	4	3	4+1 = 5

AECC

Semester -I	Hours/Week	Credits
	Th	
Fundamentals of Computer	2	2
Semester -II	Hour/Week	
Office Automation	2	2
SEC		
Semester -III		
Python –I (Sec –I)	2	2
Ci Lab –I (Sec –II)	2	2
Semester -IV		
Python –II (Sec –III)	2	2
Ci Lab –II (Sec –IV)	2	2
Generic Elective (GE)		
Semester -IV		
Information Technologies	4	4
Project/Optional		
Information Security and	Thr pr	3+1=4

DEPARTMENT OF COMPUTERSCIENCE

Girraj Govt. College (Autonomous)
B.Sc. I Year I Semester Syllabus
CBCS (With effect from 2019-20)
Core-Paper-I: Programming in C

Max. Marks: 70(Theory)

Theory	4Hrs/Week
Practical	2Hrs/Week

UNIT I

CHAPTER 1: Introduction to computers:, Classification of Computer, anatomy of computer,

Input Devices: Keyboard, pointing device, Scanner: OCR, MICR, OMR, Bar code scanner, biometric Machine, MRI, speech Recognizer (micro phone).

Output Devices: Monitor- types, Printer- types, Plotter- types, Speaker.

Primary Memories: RAM- types, ROM-types, flash memory, Cache Memory, Buffer/Clipboard, Register, Flip-Flop.

Secondary Storage: Magnetic Tape, Floppy Disk, Hard Disk, Optical storage: CD, CD-R, CD- RW, DVD, blue Ray disk, HVD, Zip disk, Auxiliary storage, Pen drive, Memory Cards, Drives: RAID, jukebox.

CHAPTER 2 : Software: Types of Software – System Software, Application Software.

Operating system:-Dos- Internal commands, Types of languages (Low, Middle, High).

Translators: Assembler, Complier, Interpreter. Algorithm, Flow chart, Pseudo Code.

UNIT II

CHAPTER 3: 'C' programming –: History, Rules & Regulations of 'C' language,

Tokens: Keywords, constants (data types), Variables (Identifiers), Operators.

Escape sequence, Structure of 'C' Language

Standard I/O functions- Printf(),Scanf(),gets(),puts(); getchar(), putchar() with programs.

Type conversions- implicit, explicit with programs.

CHAPTER 4: Operators of 'C' Language: Arithmetic, Relational, Logical, Assignment, Increment, Decrement, Ternary (conditional), sizeof, bit wise operators with programs.

Flow of control: Conditional, Unconditional statements, Loops.

Conditional Statements: simple if, Selecting (else if else if , ladder, switch), Nested if,

Unconditional: goto, gotoxy, break, continue.

Loops(Iterative statements) :while, do-while(Interactive iteration), for loop, Nested Loops.

UNIT III

CHAPTER 5: Introduction Arrays: Definition, Need, Initialization, Memory allocation, Advantages, Dis-Advantages. Types of Arrays: single-dimension Array :Two-dimention array Sum & Avg of Array elements, bubble sort, Linear search, Min & Max values of an Array, Difference between Char Array & String [EOF – '\0'] Char handling functions : isalpha(), islower(),isupper(),isdigit(), tolower(), toupper().

String handling functions : strlen(),strcat(), strcpy(), strrev(), strcpm(), strupr(), strlwr().

Two dimension –Array: Dec, initialization, Transpose of Matrix, Mat.Add, Mat.Multi, Matrix Multiplication with checking condition. Sorting Strings.

CHAPTER 6:

Functions: Definition, Need, Applications, Lib functions, User defined functions Types- functions without Argument with return, function with Argument with return functions with Argument without return functions without Argument without return void function function prototype, passing by value, passing by references (pointer), Recursion function.

Pointer & Array, Array name itself as a pointer, Array of pointer, pointer of pointer, pointer and strings with programs. passing Single dimensional Array in functions, passing single dimensional Array in function with pointer programs.

UNIT IV

CHAPTER 7: Structure - Definition, Declaration, Creating object, Structure with three objects program, array in structure, Array of structure, pointer to structure objects, passing structure objects using passing by value, passing by references, Nested structure, Unions: Difference between structure & union.

CHAPTER 8:

Enumerator data type, type def, command line Argument, Pre – Processor dir (Macro's types), storage classes with programs. Files: Creating, reading, appending, copying, deleting a file, random Access file – fseek(), ftell(),putw(), getw(), writing string into file fprintf(), reading string from file fscanf(), Dynamic memory allocation – malloc() function.

Text Books :

E Balaguru Swamy "Programming in C Language"

Pradip duy, Manas Ghosh , Computer fundamentals & programming in C (2e)

Recommended Books :

1. Ivor Horton, Beginning with C
2. Ashok Kamthane, Programming in C

DEPARTMENT OF COMPUTERSCIENCE
Girraj Govt. College (Autonomous)
B.Sc. I Year II Semester Syllabus
CBCS (With effect from 2019-20)
Core-Paper-I: Lab-Programs in C

1. Program on Escape Sequence
2. i. Swapping two numbers ii.swapping of two numbers without using third variable
3. C = (f-32) * 5/9
4. Si = (P*T*R)/100
5. Write a program on Mathematical Functions
6. Area of a Triangle
7. Square & Cube of a Number.
8. Area & Circumference of a circle.
9. Area of Triangle.
10. Implicit data conversion:
    - Converting int to float
    - Converting flaot to int
    - Converting int to Ascii char
    - Converting char to Ascii int
11. Explicit data conversion – division of two int's
12. Write a program on Operators of 'C' language.
13. Max of two numbers.
14. If radios is even determine area else circumference.
15. Positive or Negative.
16. Student marks accepting finding distinct, first, second,third,fail.
17. Valid triangle or not.
18. Find any arithmetic Operation using if else if else ladder.
19. Leap year or not using logical operator.
20. Maximum of three numbers using logical operator.
21. Accept three sub marks, if every subject marks >= 35, then student is pass else fail, write reasons for failure.
22. Maximum of three numbers without using logical operators.
23. Selection process of S.I post.
24. Selection process of IAS, IPS, IRS.
25. Determine any one Arithmetic operations using switch statement.
26. Nested switch.
27. Quadratic equation with effect of goto
28. gotxy program.
29. Sum of digits.
30. Reverse of number.
31. Armstrong number or not.
32. Palindrome number or not.
33. Factorial of a given number.
34. Sum & average of all even numbers and all odd numbers.
35. Sum and Average from 1 to N.

36. Sum of digits using interactive iteration
37. Sum of factors
38. Perfect number or not.
39. Prime number or not.
40. Fibonacci series of a number.
41. Multiplication table of a given number.
42. ASCCI char to int – A to Z its int value.
43. Effect of break and continue in a loop.
44. Multiplication table from 1 to N.
45. Prime numbers from 1 to N.
46. Perfect numbers from 1 to N.
47. Sum & Average of Array values
48. Minimum, Maximum of Array values
49. Bubble sort
50. Linear search
51. Char array
52. String array
53. String handling functions
54. Char handling functions
55. Palindrome string or not
56. Transpose of Matrix
57. Matrix addition
58. Matrix Multiplication
59. Matrix Multiplication with the checking condition.
60. Addition of two number using
     a. Function without argument with return
     b. Function with argument with return
     c. Function without argument without return
     d. Function without argument without return
61. Division of two int's using function prototype
62. Swapping of two numbers a) Passing by value b)passing by reference
63. Factorial & Fibonacci series of a number using recursion.
64. Write a Program on Pointer & Array.
65. Write a Program on Array name itself as a Pointer.
66. Write a Program on Array of Pointer.
67. Write a Program on Pointer to Pointer.
68. Write a Program on Pointer to String.
69. Write a Program on Bubble sort using passing single dimensional Array in functions.
70. Write a Program on Bubble sort using passing single dimensional Array in function using Array name itself as a Pointer.
71. Structure with three objects.
72. Write a Program on Arrays in structure.
73. Write a Program on Pointer to Structure
74. Write a Program on array of Structure object.
75. Write a Program on passing Structure objects using passing by value, passing by reference.

76. Program on Nested structure.
77. Program on Union.
78. Write a Program on Enumerated data type to display weekdays.
79. Write a Program on typedef to create a long data type.
80. Write a Program on command line Arguments.
81. Write a Program on Macro's a) Simple b)Macro with arguments c) Nested Macros.
82. Write a Program on storage classes.
83. Create a File , Read a file
84. Append a file, read a file
85. Delete a file
86. Copy a current file into new file then read copied file
87. Write a Program on Random Access file using fseek(), ftell()
88. Write a Program to create numeric file , read a file using putw(), getw()
89. Write String in file using fprintf(), reading a string from file using fscan()
90. Write a Program on Dynamic Memory allocation using malloc()

GIRRAJ GOVERNMENT COLLEGE (A), NIZAMABAD
DEPARTMENT OF COMPUTERS SCIENCE
BSC COMPUTER SCIENCE
SEMESTER-I
Programming in C
CBCS (With effect from 2019-20)

Time: 1Hr   Internal Examination   Max.Marks:25

I. Fill in the blanks   Marks: 5 X1=5

Q. 1 .
Q. 2
Q. 3
Q. 4
Q. 5

II . Answer any Five Questions.   Marks:5X2=10

Q. 6.
Q. 7
Q. 8
Q. 9
Q. 10
Q. 11
Q. 12
Q. 13

III . Answer ALL Questions.   Marks:2X5=10

Q. 14
   a)
        or
   b)

Q. 15

   a)
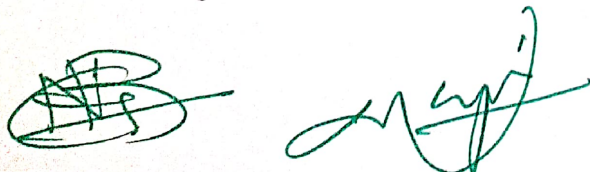
        or

   b)

IV Assignment: & seminary   Marks: 05

GIRRAJ GOVERNMENT COLLEGE (A), NIZAMABAD
DEPARTMENT OF COMPUTER SCIENCE
BSC COMPUTER SCIENCE
SEMESTER-I
Paper-I: Programming in C
CBCS (With effect from 2019-2020)

Time: 3:00 Hrs   External Examination   Max.Marks:-70

PART- A

Marks: 6x5=30

I. Answer any Six of the following Questions.

Q. 1 & 2	from	.Unit-I
Q. 3 & 4	from	.Unit-II
Q. 5 & 6	from	.Unit-III
Q. 7 & 8	from	.Unit-IV

PART-B

Marks: 4x10=40

II Answer All the Questions.

Q. 9   (a or b) from unit- I
Q. 10   (a or b) from unit- II
Q. 11   (a or b) from unit- III
Q. 12   (a or b) from unit- IV

DEPARTMENT OF COMPUTERSCIENCE
Girraj Govt. College (Autonomous)
B.Sc. I Year II Semester Syllabus
CBCS (With effect from 2019-20)
Core-Paper-II: Programming in C++

	Max. Marks: 70(Theory)
Theory	4Hrs/Week
Practical	2Hrs/Week

UNIT –I
CHAPTER 1: Introduction to OOPS:
History of C++, Procedure Oriented Programming, Object Oriented programming Paradigm, Opp's concepts, benefits of Opps, Difference between C and C++, Applications of Opp's .

CHAPTER 2 : Introduction of C++:
Input – Output stream, Comments, The iostream file, Namesspace, an example with Class, Structure of C++ Program, Tokens of C++ : Keywords, identifiers, constants. Basic Data Types: User defined type, Built in type, Derived type, Symbolic constants, Reference Variables. Operators in C++: Scope Resolution Operator, Memory Management: new, delete. Manipulators: endl,setw. Type casting.

UNIT- II
CHAPTER 3: Classes and Objects,Arrays :
specifying a class, A simple class example, creating objects, Accessing class members, outside the class Definition using scope Resolution operator (::) , A C++ program with class, Inline function, Nesting of Member functions. Private member functions, Static data members, Static member functions, Array of Objects.

Introduction to Arrays:
Types of Arrays, Single dimensional Arrays . Bubble sort, Linear search, Two dimensional Arrays: Tranpose of Matrix, Matrix addition, Matrix Multiplication, Matrix multiplication with checking condition, Multidimensional Array.

CHAPTER 4: Functions in C++:
The main function, function prototyping, Pass by Value, Pass by Reference, Call by Reference, Inline function without class, Inline function with in a class, Function overloading , Friend function , Recursive function, Objects as function Arguments, Returning objects.

UNIT -III
CHAPTER 5: Constructor and Destructor, Inheritance.
Constructors-Types: Default constructor, Parameterized Constrictor, Overloaded Constructor. Copy constructors, Destructor, new and delete operators.
Introduction to Inheritance: Extending classes, Types of inheritances.
Accessing specifiers :private, public, protected. Defining derived class, single inheritance, multiple inheritance (multi value), multilevel inheritance, Hierarchical inheritance, Hybrid inheritance, multipath inheritance with virtual base class. Abstract classes.

CHAPTER 6: Pointers, Polymorphism:
Example of using pointers. Manipulation of pointers, pointers with Arrays, Pointers to object, .
Polymorphism: Compile time Polymorphism (static binding or static linking or early binding):
Overloading,-function overloading,unary operator overloading , binary operator overloading. Runtime Polymorphism: (Dynamic binding or Late binding or Dynamic linking) – Virtual function, pure virtual functions.

UNIT IV

CHAPTER 7: Exceptions, Templates:

Template : function template, class template , function template with multiple Arguments, class templates with multiple arguments.

Exceptional Handling in C++, use of try, catch and throw keywords, Multiple catch statements.

CHAPTER 8: Introduction to Files & Streams:

C++ streams- put(), get(), ignore(), getline() and write() functions. Writing data into file, Reading data from file, Random access to file using seekg(), tellg(). writing object into file, Reading object from file using write(), read() functions.

Text Books :

E Balaguru Swamy " Object Oriented Programming with C++" 6e

Recommended Books :

1. Reeema Thareja "Object oriented Programming with C++" Oxford university Press, 2015
2. Spoken tutorial on "C++" as E-resource for Learning:- http://spoken-tutorial.org

DEPARTMENT OF COMPUTER SCIENCE
Giriraj Govt. College (Autonomous)
CBCS (With effect from 2019-20)
B.Sc. I Year II Semester Syllabus
Core-Paper-II: Lab-Programs in C++

1. Explain about structure of C++, with programming.
2. Program on Scope resolution operator.
3. Program on Manipulator setw, endl.
4. Program on Inline function with class concept without class concept.
5. Nesting of member functions
6. Private Member functions.
7. Program on static Data Members, Static member function.
8. Array of object
9. Bubble sort in class
10. Linear search in class
11. Minimum , Maximum of an array in class
12. Trans pox of matrix in class
13. Matrix addition in class
14. Matrix multiplication
15. Matrix multiplication with checking g condition
16. Sorting string
17. Multi dimensional Array
18. Programs on function prototype
19. Swapping of two numbers a) Pass by value b) Pass by reference c) Call by reference
20. Swapping of two classes Private data using friend function
21. Program on object s as function Arguments
22. Returning objects
23. Programs on types of constructor a) Default b) Parameterized c) Overloaded
24. Copy constructor
25. Program on constructor & destructor
26. Program on new, delete operator
27. Program on single value inheritance
28. Program on multiple (multi value) inheritance
29. Program on multi level inheritance
30. Program on Hierarchical inheritance
31. Program on Hybrid inheritance
32. Program on hybrid with multipath inheritance using virtual base class
33. Abstract classes
34. Pointer to objects
35. Compile time polymorphism I) function overloading II) unary operator III) binary operator overloading

36. Program on Runtime polymorphism using virtual function
37. Function template – sorting of different Array values
38. Class template – sorting of different Array values
39. Function template with multiple Arguments
40. Class template with multiple Arguments
41. Class template with multiple argument
42. Programs on Exceptional handling catch, throw, try
43. Program on get(), ignore()
44. Program on getline()
45. Program on put(), write()
46. Write characters into file, reading character from file
47. Writing string into file , reading ,strings from file using ofstream , ifstream
48. Random access file using seekg(), tellg()
49. Program on writing object into file using write(), reading object from file using read() function
50. Recursion a) factorial of number b) Fibonacci series

GIRRAJ GOVERNMENT COLLEGE (A), NIZAMABAD
DEPARTMENT OF COMPUTERS SCIENCE
BSC COMPUTER SCIENCE
SEMESTER-I I
Programming in C++
CBCS (With effect from 2019-20)

Time: 1Hr   Internal Examination   Max.Marks:25

I. Fill in the blanks   Marks: 5 X1=5

Q. 1 .
Q. 2
Q. 3
Q. 4
Q. 5

II . Answer any Five Questions.   Marks:5X2=10

Q. 6.
Q. 7
Q. 8
Q. 9
Q. 10
Q. 11
Q. 12
Q. 13

III . Answer ALL Questions.   Marks:2X5=10

Q. 14
  a)
        or
  b)

Q. 15

  a)
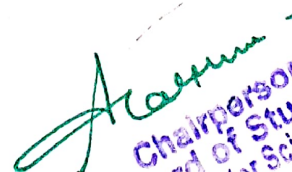
        or

  b)

IV Assignment: Marks: 05

GIRRAJ GOVERNMENT COLLEGE (A), NIZAMABAD
DEPARTMENT OF COMPUTER SCIENCE
BSC COMPUTER SCIENCE
SEMESTER-II
Paper-II: Programming in C++
CBCS (With effect from 2019-2020)

Time: 3:00 Hrs External Examination Max.Marks:-70

PART- A

Marks: 6x5=30

I. Answer any Six of the following Questions.

Q. 1 & 2	from	.Unit-I
Q. 3 & 4	from	.Unit-II
Q. 5 & 6	from	.Unit-III
Q. 7 & 8	from	.Unit-IV

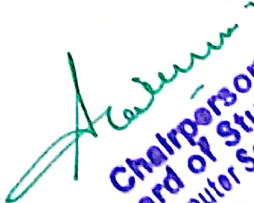## PART-B

Marks: 4x10=40

II Answer All the Questions.

Q. 9   (a or b) from unit- I
Q. 10 (a or b) from unit- II
Q. 11 (a or b) from unit- III
Q. 12 (a or b) from unit- IV