QUESTION BANK 2023-2024

THIRUTHANAGAL NADAR COLLEGE

DEPARTMENT OF B.COM (Computer Applications)

PYTHON PROGRAMMING

QUESTION BANK

PART A- 2MARKS

1. What is CPU?
2. Define Algorithm.
3. Define Hardware.
4. Define Software.
5. What is a programming language ?
6. What is a binary number?
7. What are the roles of an operating system?
8. What is a translator?
9. Define Compiler.
10. What is an Interpreter?
11. What is arithmetic overflow?
12. What is arithmetic underflow?
13. What is Unicode?
14. What is an identifier?
15. What is a keyword?
16. Define tokens.
17. What is coercion?
18. What is comment line?
19. What is meant by control structure?
20. What is meant by flow control?
21. What is sequence control?
22. What is selection control?
23. What is iterative control?
24. What is jump control?
25. What is the use of bool()?
26. What are Boolean operators?
27. What is indentation?
28. How if statement works in python?
29. What is elif statement?
30. What is meant by definite loop ?
31. What is meant by indefinite loop?
32. What is Boolean flag?
33. What is list?
34. Differentiate mutable and immutable objects.
35. How to create a list?
36. How do you access list elements?
37. What is meant by negative indexing?
38. What is meant by slicing on list?
39. List any 4 list operations.
40. Define tuple.
41. Write short notes on “in” operator.
42. What is function?
43. What are the components of function definition?
44. How do you define a function in python?
45. What is meant by actual and formal arguments?

46. What is meant by positional argument ?
47. Define pass by reference.
48. Define pass by value.
49. What is the use of keyword argument?
50. What is the use of default arguments?
51. Define variable scope.
52. What is meant by global scope of a variable?
53. What is meant by built in scope of a variable?
54. Define Object.
55. What is meant by window in turtle graphics?
56. What is meant by turtle?
57. What are the shapes supported by python for turtle?
58. What is meant by absolute positioning?
59. Define relative positioning.
60. List any 4 methods used to move the turtle using relative positioning.
61. What is pen in turtle graphics?
62. Define modular programming.
63. Define module.
64. How do you create namespaces?
65. What is the lifetime of namespace?
66. Define file.
67. What is meant by file system?
68. What is file path name?
69. How do you open a file?
70. What is the use of readline() in file?
71. Write about write operation in a file.
72. Define string.
73. How do you represent multiline string in python?
74. What is meant by exception?
75. How do you raise an exception?
76. What is the use of print ()?
77. Define dictionary.
78. What is set?
79. Differentiate set () and frozenset().
80. Define encapsulation.
81. What is abstract class?
82. Define inheritance.
83. Define polymorphism.
84. Define class.
85. Define object.
86. Define method overloading.
87. Define method overriding.
88. What is recursive function?
89. Give the syntax for declaring class.
90. Define Abstraction.

PART - B & C (5 & 10 MARKS)

1. Write an algorithm for finding the largest of three numbers.
2. Write an algorithm to find the sum of n numbers
3. Write an algorithm to find the factorial of n numbers
4. What is peripherals? List out any five peripherals with short description

5. Write short notes about the evolution of programming language?
6. Explain the steps involved in computational problem solving?
7. What are the features of Python programming language?
8. Explain the need of indentation in Python code with an example
9. Explain about literals in Python.
10. What is an operator? Explain any five operators in Python.
11. Explain about member operator in Python.
12. Explain the importance of operator precedence rule with an example.
13. Write short note on Arithmetic Expression and Boolean Expression.
14. Write note on data types.
15. What is the use of function type()?Explain with an example.
16. Explain the components/parameter/syntax of print() function.
17. Write Python program to do the arithmetic operations for given input value.
18. Write Python program to find the whether given string is substring of other using Member operator.
19. Explain about different types of flow control.
20. Explain about Boolean expressions with its operators, functions and examples.
21. What is the use of bool() function? Explain with examples
22. Discuss about the Boolean operators supported by python.
23. How the Boolean operators working on identifiers directly withou Boolean expression? Explain the process of it with examples.
24. Explain the operator precedence of Boolean operators with relational and arithmetic expression.
25. Explain about the selection control statements in Python. Give examples.
26. Discuss about the use of if statement.
27. Discuss about the use of if..else statement.
28. Write short nots the importance of indentation in python.
29. Explain about the statements which are used in multi-way selection
30. Discuss about the nested if statement with example.
31. Discuss about the use of elif statement.
32. Explain about the supported iterative control statements of python
33. Illustrate about the while loop with example.
34. Discuss the for loop statement with example.
35. How else statement can be used in loop? Explain.
36. Explain about nested loops with example.
37. List out the iterative control statements in python. Explain.
38. What is infinite loop? Explain with an example.
39. What are definite and indefinite loops? Explain with examples
40. How Boolean flags are used in indefinite loop? Explain.
41. What is list? Explain with its basic operations.
42. How python supports list? Discuss about various operations on l with necessary examples.
43. Explain about the creation of list with examples.
44. Explain the list access using positive and negative indexing.
45. Write notes on slicing in list. Give necessary examples.
46. Illustrate the functions used in list for various purposes.
47. Explain about the nested list.
48. Explain the list iteration in python with example program.
49. Write short notes about function and its uses.

50. How do you define and call a function? Discuss with examples.
51. Explain about calling Value-Returning Functions.
52. Explain about calling non-Value-Returning Functions.
53. Discuss about actual and formal arguments in function.,
54. Explain about Required Positional Arguments in function with examples.
55. Compare and contrast pass by value and pass by reference with examples.
56. What are keyword arguments? Explain with examples.
57. What are default arguments? Explain with examples.
58. What is meant by variable scope and what order the variables are searched for an existence?
59. Discuss about local scope of a variable with example.
60. Discuss about global scope of a variable with example.
61. Explain about built-in scope of an identifier with example.
62. Explain about functions with its definition and calling with necessary example.
63. Discuss in detail with example about the functions with returning values.
64. Explain about the parameter passing with any two types of arguments.
65. Discuss about different types variable scope supported in pythons. Give necessary examples.
66. What is meant by object? Discuss with an example.
67. Discus about the mutable object references in python. 3. Discus about the immutable object references in python.
68. Explain about the creation of window in turtle graphics.
69. Discuss about the creation of turtle.
70. List the attributes used in turtle creation. Give examples.
71. How do you move a turtle? Explain.
72. Write short notes about pen control.
73. Write notes about pen colour.
74. Discuss about the creation of multiple turtles.
75. Explain about the search path of the modules in python.
76. Explain about the user defined module with an example program
77. Explain about the objects with an example.
78. Explain about pen control methods and attributes.
79. Discuss in detail about the python modules.
80. Explain about modules and namespaces.
81. Write short notes on file system.
82. Explain the file opening and closing methods with examples in python.
83. How do you read the content of a file? Explain with example.
84. How read() and readlines() differs in file? Explain.
85. How do you content into a file? Explain with example.
86. Write short notes about representing strings in Python.
87. Explain about slicing operations on string using slice function.
88. Discuss about case conversion methods on string with examples.
89. Discuss about searching and replacing methods on string with examples.
90. Explain about string alignment methods with examples.
91. What is an exception? Write shorts notes on it.
92. How do you handle the exception? Explain with an example program.
93. Discuss about the raising an error manually with an example program.
94. Discuss in detail about files and its opening and closing operations.
95. Explain about read and write operations on a file with necessary example programs.

THIRUTHANAGAL NADAR COLLEGE

DEPARTMENT OF SOFTWARE APPLICATIONS

JAVA & DATA STRUCTURES

QUESTION BANK

PART A-2 MARKS

1. What is JDK?
2. What is JVM?
3. What is JRE?
4. What is API?
5. Why is java known as platform Independent?
6. What is class?
7. What is object oriented programming?
8. How are data and methods organized in an OOP?
9. Define Encapsulation.
10. Define Abstraction.
11. Define Polymorphism.
12. Define Object.
13. Define class.
14. Define Inheritance.
15. What is Dynamic Binding?
16. What is message passing?
17. What is Token?
18. What is the scope of a variable?
19. What is conditional operator ?
20. What is the use of break statement ?
21. What is an instance variable ?
22. How is class defined in java?
23. How to create objects in java?
24. How is method declared in java?
25. Define Constructor.
26. How do we invoke a constructor?
27. What is method overloading?
28. What is method overriding?
29. What is the use of final key?
30. What is finalization ?
31. What is wrapper class?
32. What is vector class?
33. What is an abstract class or method?
34. What are Input and Output stream?
35. Distinguish between local and remote applets.
36. Define Exception.
37. What is Random Access File?
38. Define Applets.
39. List few Java Exceptions.

40. What is a stream?
41. Explain applet tag.
42. What is an event listener?
43. What is the purpose of throw statement?
44. What is Finally block?
45. Write any 2 situations where applets are used?
46. Define files in java.
47. Define data structure.
48. What is an array?
49. Define ordered list.
50. Define stack.
51. Write any two applications of stack.
52. What is recursion?
53. Define Infix notation.
54. Define queue.
55. Define circular queue.
56. Define linked list.
57. What is doubly linked list?
58. List down the applications of double linked list.
59. Define Tree.
60. Define Graph.
61. What is a directed tree?
62. Define an expression tree.
63. What is a forest?
64. Define binary tree.
65. Define weighted graph.
66. What is meant by subgraph?
67. Define degree of a node.
68. Define depth of a tree.
69. What are siblings?
70. What is height of the tree ?

PART B-5 MARKS

1. What are the major features of java language?
2. List at least 5 major differences between C and Java.
3. List at least 5 major differences between C++ and Java.
4. Explain the process of building and running java programs:
5. What are the Packages available in Java?
6. What are the areas of application of OOP
7. What are the different types of tokens in java?
8. Explain Java Character Set
9. Describe the structure of typical java program.

10. Explain about different types of constants in java?
11. What is the difference between while and do-while statements.
12. In what ways the switch statement difference from an if statements?
13. What is method overriding? Explain with an example:
14. What is method overloading? explain with an example? 3. Difference between Method overloading and overriding:
15. Explain about different types of string methods.
16. What are constructors? Discuss about the usage of constructors with examples.
17. Write a Java Program to print Alphabetical ordering of strings
18. Write about defining a class and adding methods in java with examples.
19. Define Abstract Class and Abstract methods with example.
20. Describe the use of this keyword.
21. Explain finalize() method.
22. Explain the syntax of exception Handling code with example. write short note on Common Java Exception.
23. Explain how exception handling mechanism can be used for Debugging a program
24. Discuss briefly about byte stream classes. Discuss briefly about 10 Stream class
25. Discuss briefly about character stream classes.
26. What are the steps involved in file operation using stream class? Explain with an example about passing a parameter to the Applet.
27. Explain the methods of Applet class?
28. Describe primitive and composite data types.
29. Explain the various asymptotic notations with examples.
30. Explain the operations on array data structure.
31. What is a list? Explain various operations performed on it.
32. Explain the concept of stack with illustrations.

33. Explain the operations performed on a Stack.
34. Discuss the algorithm for adding an element to the stack.
35. Briefly explain the applications of Stack.
36. Write an algorithm to convert infix expression to postfix expression.
37. Explain the concept of queue with illustrations.
38. Discuss the operations on queue.
39. Explain the applications of queue.
40. Briefly explain circular queue.
41. Explain the singly linked list and its operations.
42. Explain the procedure to insert a node in a singly linked list.
43. Write a note on doubly linked list.
44. Explain the conversion of Forest into Binary Tree with an example.
45. Draw the expression tree for the expression

    (a+b+c)/((de+f)*g).
46. Discuss the types of graphs with examples.
47. Explain the adjacency matrix representation for a graph

PART C-10 MARKS

1. What are the key features of object oriented programming?
2. Explain different types of Statements in Java?
3. Explain different types of decision making statement?
4. Explain about different type of looping statement in java?
5. Explain about Operators in Java.
6. Explain constructor overloading and function overloading with an example
7. What is Inner class in Java? Write a program to implement inner classes in Java.
8. Explain the use of super keyword with an example.

9. Write short note on method overriding. Give an example. 5. Write short notes on String class with necessary examples.
10. Explain Garbage collection in detail with example.
11. Explain and example to create and throw our own exception
12. Define the usage of character stream class and file.
13. Define the usage of Byte stream class with example.
14. Write a java program for copying character from one file to another file
15. Explain the life cycle of Applet.
16. Explain with an example the steps involved in creating an applet.
17. Explain the concept of arrays in detail.
18. Explain the List ADT in detail.
19. What is a stack? Explain any two operations on stack with required algorithm.
20. How is an infix expression converted to postfix expression. Convert the expression a+b*c+(d*e+f)*g to postifx form.
21. Describe the concept of queue and also write algorithms to insert and delete an element in a queue.
22. Explain various operations available on a queue.
23. Explain the operations available for a singly linked list.
24. Explain the procedure to add two polynomials using linked list.
25. What are the two ways of representing binary trees? Explain with examples.
26. Discuss the binary tree traversal algorithms with examples.
27. Discuss the graph searching algorithms with examples.
28. Explain the Dijkstra's shortest path algorithm with an example.