CLASS-XII (CBSE)

Computer Science

Workbook Cum Question Bank with Answers

SCHEDULED CASTES & SCHEDULED TRIBES
RESEARCH & TRAINING INSTITUTE (SCSTRTI)
ST & SC DEVELOPMENT DEPARTMENT
BHUBANESWAR

COMPUTER SCIENCE

Workbook Cum Question Bank with Answers

CLASS-XII (CBSE)

Compiled by

Prof. Arabinda Nanda

Associate Professor
Deptt. of Computer Science & Engineering
Krupajal Engineering College,
Bhubaneswar

SCHEDULED CASTES & SCHEDULED TRIBES
RESEARCH & TRAINING INSTITUTE (SCSTRTI)
ST & SC DEVELOPMENT DEPARTMENT
BHUBANESWAR

2022

UNIT - I :

Computational Thinking and Programming - 2

1. REVISION OF PYTHON TOPICS COVERED IN CLASS XI

1. Who developed the Python language?
(a) Zim Den
(b) Guido van Rossum
(c) NieneStom
(d) Wick van Rossum

2. The developer of python language belongs to which country?
(a) Netherlands (b) New Zealand
(c) Nizeria (d) New Delhi

3. The Programming language Python name came from
(a) Popular BBC comedy show "Monty Python's Flying Circus".
(b) Popular comedy circus "Python's Flying Circus".
(c) Comedy serial "Monty Python"
(d) None of these

4. In which year was the Python language developed?
(a) 1995 (b) 1972
(c) 1981 (d) 1989

5. In which language is Python written?
(a) English (b) PHP
(c) C language (d) All of the above

6. Which one of the following is the correct extension of the Python file?
(a) .py (b) .python
(c) .p (d) None of these

7. In which year was the Python 3.0 version developed?
(a) 2008 (b) 2000
(c) 2010 (d) 2005

8. Python is a/an _____based language.
(a) Compiler
(b) Interpreter
(c) Both Compiler and Interpreter
(d) None of these

9. What do we use to define a block of code in Python language?
(a) Key (b) Brackets
(c) Indentation (d) None of these

10. Which character is used in Python to make a single line comment?
(a) / (b) //
(c) # (d) !

11. Python is _____.
(a) general purpose, dynamic, high-level, and interpreted programming language.
(b) low-level language
(c) Both a & b
(d) None of these

12. What is the method inside the class in python language?
(a) Object (b) Function
(c) Attribute (d) Argument

13. Which of the following declarations is incorrect?
(a) _x = 2 (b) Y = 3
(c) 2xyz__ = 5 (d) None of these

14. Why does the name of local variables start with an underscore discouraged?
(a) To identify the variable
(b) It confuses the interpreter
(c) It indicates a private variable of a class
(d) None of these

15. Local variables are variables declared

(a) Outside a function (b) Inside a function
(c) Both a and b (d) None of these

16. Which of the following is not a keyword in Python language?

(a) val (b) raise
(c) try (d) with

17. Which of the following statements is correct for variable names in Python language?

a. All variable names must begin with an underscore.
b. Can be any length
c. The variable name length is a maximum of 2.
d. All of the above

18. Which of the following declarations is incorrect in python language?

(a) xyzp = 500
(b) x y z p = 50 60 70 80
(c) x,y,z,p = 500
(d) x_y_z_p = 5000

19. Which of the following words cannot be a variable in python language?

(a) _val (b) val
(c) try (d) _try_

20. Which of the following operators is the correct option for power (ab)?

(a) a ^ b (b) a**b
(c) a ^ ^ b (d) a ^ * b

21. Which of the following precedence order is correct in Python?

a. Parentheses, Exponential, Multiplication, Division, Addition, Subtraction
b. Multiplication, Division, Addition, Subtraction, Parentheses, Exponential
c. Division, Multiplication, Addition, Subtraction, Parentheses, Exponential
d. Exponential, Parentheses, Multiplication, Division, Addition, Subtraction

22. Which one of the following has the same precedence level?

a. Division, Power, Multiplication, Addition and Subtraction
b. Division and Multiplication
c. Subtraction and Division
d. Power and Division

23. Which one of the following has the highest precedence in the expression?

(a) Division (b) Subtraction
(c) Power (d) Parentheses

24. Which of the following functions is a built-in function in python language?

(a) val() (b) print()
(c) println() (d) None of these

25. Study the following function:

round(4.876)

What will be the output of this function?

(a) 4 (b) 4.5
(c) 576 (d) 5

26. Which of the following is correctly evaluated for this function?

pow(x,y,z)

(a) (x**y) / z (b) (x / y) * z
(c) (x**y) % z (d) (x / y) / z

27. Study the following function:

all([1,1,0,1])

What will be the output of this function?

(a) false (b) true
(c) 3 (d) Invalid code

28. Study the following function:

all([1,1,1,1])

What will be the output of this function?

(a) false (b) true
(c) 3 (d) Invalid code

29. Study the following program:

```
x = 1
while true:
if x % 5 = = 0:
break
print(x)
x +    = 1
```

What will be the output of this code?

(a) error (b) 2 1

(c) 0 3 1 (d) None of these

30. Which of the following is not used as loop in Python?

(a) for loop (b) while loop

(c) do-while loop (d) None of the above

31. Which of the following is false regarding loops in Python?

(a) Loops are used to perform certain tasks repeatedly.

(b) While loop is used when multiple statements are to executed repeatedly until the given condition becomes false.

(c) While loop is used when multiple statements are to executed repeatedly until the given condition becomes true.

(d) for loop can be used to iterate through the elements of lists.

32. How many times will the loop run?

```
i=2
while(i>0):
i=i-1
```

(a) 2 (b) 3

(c) 1 (d) 0

33. Which one of the following is a valid Python if statement:

(a) if a>=2 : (b) if (a >= 2)

(c) if (a => 22) (d) if a >= 22

34. Can we write if/else into one line in python?

(a) Yes

(b) No

(c) if/else not used in python

(d) None of the above

35. Which statement will check if a is equal to b?

(a) if a = b: (b) if a == b:

(c) if a === c: (d) if a == b

36. Does python have Switch case statement?

(a) True

(b) False

(c) Python has switch statement but we cannot use it.

(d) None of the above

37. What will be the output of the following Python code?

```
for i in range(0,2,-1):
print("Hello")
```

(a) Hello (b) Hello Hello

(c) Hello Hello Hello (d) None

38. Which of the following is a valid for loop in Python?

(a) for(i=0; i < n; i++)

(b) for i in range(0,5):

(c) for i in range(0,5)

(d) for i in range(5)

39. Which of the following sequences would be generated by the given line of code?

range (5, 0, -2)

(a) 5 4 3 2 1 0 -1 (b) 5 4 3 2 1 0

(c) 5 3 1 (d) None of the above

40. When does the else statement written after loop executes?

(a) When break statement is executed in the loop

(b) When loop condition becomes false

(c) Else statement is always executed

(d) None of the above

41. What will be the output of the following code?

```
x = "abcd"
for i in range(len(x)):
print(i)
```

(a) Abcd (b) 0 1 2 3

(c) 1 2 3 4 (d) a b c d

42. For loop in python is

(a) Entry control loop

(b) Exit control loop

(c) Simple loop

(d) None of the above

43. In which of the following loop in python, we can check the condition?

(a) for loop (b) while loop

(c) do while loop (d) None of the above

44. It is possible to create a loop using goto statement in python?

(a) Yes (b) No

(c) Sometimes (d) None of the above

45. What we put at the last of the loop?

(a) semicolon (b) colon

(c) comma (d) None of the above

46. Which of the following is the loop in python?

(a) for (b) while

(c) do while (d) a and b

47. while(0): , how many times a loop run?

(a) 0 (b) 1

(c) 3 (d) Infinite

48. while(1==3):, how many times a loop run ?

(a) 0 (b) 1

(c) 3 (d) Infinite

49. if -3 will evaluate to true in python

(a) True (b) False

(c) Can't say (d) None of these

50. What is the output of the following if statement

```
a, b = 12, 5
if a + b:
print('True')
else:
print('False')
```

(a) False (b) True

(c) Can't say (d) none of these

51. Python string is the collection of the characters surrounded by

(a) single quotes

(b) double quotes

(c) triple quotes

(d) single quotes, double quotes, or triple quotes.

52. Python strings are also called the collection of

(a) Unicode characters

(b) binary code

(c) Both a & b

(d) None of these

53. Indexing of the Python strings starts from

(a) 0 (b) 1

(c) 2 (d) None of these

54. What will be the output of string function capitalize()

(a) Convert the first character to upper case

(b) Convert last character to upper case

(c) Convert all character to upper case

(d) None of these

55. What will be the output?

```
txt = "I love apples,
apples are my favorite fruit"
x = txt.count("apples")
print(x)
```

(a) 0 (b) 1
(c) 2 (d) 3

56. The string method islower( ) returns

(a) true if all characters in the string are lower case
(b) false if all characters in the string are lower case
(c) true if some characters in the string are lower case
(d) None of these

57. Which string method removes spaces at the beginning and at the end of the string?

(a) strip( ) (b) rstrip( )
(c) lstrip( ) (d) None of these

58. isalnum() methods

(a) Returns true, if all characters in the string are numeric
(b) Returns true, if all characters in the string are alphanumeric
(c) Returns false, if all characters in the string are alphanumeric
(d) none of these

59. Lists are used to

(a) store multiple items in a single variable
(b) store single item in a single variable
(c) store multiple items in multi variable
(d) None of these

60. The append() method appends an element

(a) to the end of the list
(b) to the beginning of the list
(c) to the middle of the list
(d) None of these

61. The reverse() method reverses

(a) the sorting order of the elements
(b) the un-order of the elements
(c) both order & un-order elements
(d) None of these

62. What will be the output of below Python code?

```
str1="Information"
print(str1[2:8])
```

(a) format (b) Formation
(c) Orma (d) ormat

63. Study the following code:

```
x = ['XX', 'YY']
for i in x:
i.lower()
print(i)
```

What will be the output of this program?

(a) ['XX', 'YY'] (b) ['xx', 'yy']
(c) [XX, yy] (d) None of these

64. Study the following statement:

```
>>>"a"+"bc"
```

What will be the output of this statement?

(a) a+bc (b) abc
(c) a bc+ (d) a

65. Study the following code:

```
>>>"javatpoint"[5:]
```

What will be the output of this code?

(a) javatpoint (b) java
(c) point (d) None of these

66. Study the following statements:

```
>>> print(ord('h') - ord('z'))
```

What will be the output of this statement?

(a) 18 (b) -18
(c) 17 (d) -17

67. Study the following program:

```
i = 1:
while true:
if i%3 == 0:
break
print(i)
```

Which of the following is the correct output of this program?

(a) 1 2 3 (b) 3 2 1
(c) 1 2 (d) Invalid syntax

68. Which of the following option is not a core data type in the python language?

(a) Dictionary (b) Lists
(c) Class (d) All of the above

69. What error will occur when you execute the following code?

```
MANGO = APPLE
```

(a) NameError (b) SyntaxError
(c) TypeError (d) ValueError

70. Which of the following data types is shown below?

```
L = [2, 54, 'python', 5]
```

What will be the output of this statement?

(a) Dictionary (b) Tuple
(c) List (d) Stack

71. What happens when '2' == 2 is executed?

(a) false
(b) true
(c) ValueError occurs
(d) TypeError occurs

72. Study the following statement

```
z = {"x":0, "y":1}
```

Which of the following is the correct statement?

(a) x dictionary z is created
(b) x and y are the keys of dictionary z
(c) 0 and 1 are the values of dictionary z
(d) All of the above

73. pop() method

(a) remove the element with the specified key
(b) remove the dictionary
(c) remove element
(d) none of these

74. A tuple is a collection which is

(a) ordered and changeable.
(b) ordered and unchangeable
(c) ordered and unchangeable
(d) None of these

75. Which function is used to determine how many items a tuple has

(a) tlen() (b) len()
(c) tuplelen() (d) None of these

ANSWER KEYS

1. (b) Guido van Rossum
2. (a) Netherlands
3. (a) Popular BBC comedy show "Monty Python's Flying Circus".
4. (d) 1989
5. (c) C language
6. (a) .py
7. (a) 2008
8. (b) Interpreter
9. (c) Indentation
10. (c) #
11. (a) general purpose, dynamic, high-level, and interpreted programming language.
12. (b) function
13. (c) 2xyz__ = 5
14. (c) It indicates a private variable of a class
15. (b) inside a function

16. (a) val

17. (b) Can be any length

18. (b) x y z p = 50 60 70 80

19. (c) _ try

20. (b) a**b

21. (a) Parentheses, Exponential, Multiplication, Division, Addition, Subtraction

22. (b) Division and Multiplication

23. (d) Parentheses

24. (b) print()

25. (d) 5

26. (c) (x**y) % z

27. (a) false

28. (b) true

29. (a) error

Explanation: Syntax error, there should not be a space between + and =.

30. (c) do-while loop

31. (b) While loop is used when multiple statements are to executed repeatedly until the given condition becomes false

32. (a) 2

33. (a) if a>=2 :

34. (a) yes

Explanation: Yes, we can write if/else in one line. For e.g i = 5 if a > 7 else 0. So, option a is correct.

35. (b) if a == b:

36. (b) False

37. (a) Hello

38. (b) for i in range(0,5):

39. (c) 5 3 1

Explanation: The initial value is 5 which is decreased by 2 till 0 so we get 5, then 2 is decreased so we get 3 then the same thing repeated we get 1 and now when 2 is decreased we get -1 which is less than 0 so we stop and hence we get 5 3 1. So, option c is correct.

40. (b) When loop condition becomes false

41. (b) 0 1 2 3

Explanation: len(x) will give 4 and the loop will run for 4 times starting from 0. Hence output will be 0 1 2 3.

42. (a) Entry control loop

43. (b) while loop

44. (b) No

45. (b) colon

46. (d) a and b

47. (a) 0

48. (a) 0

49. (a) True

Explanation: In Python, any non-zero value or nonempty container is considered TRUE. So if - 3 will evaluate to true

50. (b) True

Explanation: In Python, any non-zero value is considered True. So it will evaluate to true.

51. (d) single quotes, double quotes, or triple quotes.

52. (a) Unicode characters.

53. (a) 0

54. (a) Convert the first character to upper case

55. (c) 2

56. (a) true if all characters in the string are lower case

57. (a) strip( )

58. (b) Returns true, if all characters in the string are alphanumeric

59. (a) store multiple items in a single variable

60. (a) to the end of the list

61. (a) the sorting order of the elements

62. (a) format

Explanation: Concept of slicing is used in this question. In string slicing, the output is the substring starting from the first given index position i.e. 2 to one less than the second given index position i.e. (8-1=7) of the given string str1. Hence, the output will be "format".

63. (b) ['xx', 'yy']

64. (b) abc

Explanation: In Python, the "+" operator acts as a concatenation operator between two strings.

65. (c) point

Explanation: Slice operation is performed on the string.

66. (b) -18

Explanation: ASCII value of h is less than the z. Hence the output of this code is 104-122, which is equal to -18.

67. (d) Invalid syntax

Explanation: Invalid syntax, because this declaration (i = 1:) is wrong.

68. (c) Class

Explanation: Class is not a core data type because it is a user-defined data type.

69. (a) NameError

Explanation: Mango is not defined hence the name error.

70. (c) List

Explanation: Any value can be stored in the list data type.

71. (a) false

72. (d) All of the above

Explanation: All of the above statements is correct regarding Python code.

73. (a) remove the element with the specified key

74. (b) ordered and unchangeable

75. (b) len()

2. FUNCTIONS

(a) Multiple Choice Questions

1. Which keyword is use for function?

(a) define (b) fun
(c) def (d) function

2. Which of the following items are present in the function header?

(a) function name (b) parameter list
(c) return value (d) Both A and B

3. What is called when a function is defined inside a class?

(a) class (b) method
(c) module (d) None of these

4. If return statement is not used inside the function, the function will return

(a) None (b) 0
(c) Null (d) Arbitary value

5. What is a recursive function?

(a) A function that calls other function.
(b) A function which calls itself repeatedly
(c) Both A and B
(d) None of the above

6. Which of the following is the use of id() function in python?

(a) Id() returns the size of object.
(d) Id() returns the identity of the object.
(c) Both A and B
(d) None of the above

7. In which part of memory does the system stores the parameter and local variables of function call?

(a) heap
(b) stack
(c) Uninitialized data segment
(d) None of the above

8. How is a function declared in Python?

(a) def function function_name():
(d) declare function function_name():
(c) deffunction_name():
(d) declare function_name():

9. Which one of the following is the correct way of calling a function?

(a) function_name()
(b) call function_name()
(c) ret function_name()
(d) function function_name()

10. You can also create your own functions, these functions are called?

(a) built-in functions
(b) user-defined functions
(c) py function
(d) None of the above

11. Function blocks begin with the keyword?

(a) define (b) fun
(c) function (d) def

12. The code block within every function starts with?

(a) ; (b) ::
(c) : (d) %

13. A return statement with _____ arguments.

(a) No (b) 1
(c) 2 (d) Any

14. _____ are the arguments passed to a function in correct positional order.

(a) Required arguments
(b) Keyword arguments
(c) Default arguments
(d) Variable-length arguments

15. Which of the following will print the pi value defined in math module?

(a) print(pi)

(b) print(math.pi)

(c) from math import pi
print(pi)

(d) from math import pi
print(math.pi)

16. Which operator is used in Python to import modules from packages?

(a) . (b) *

(c) -> (d) &

17. Where is function defined?

(a) Module (d) class

(c) Another Function (d) All of the above

18. Lambda is a function in python?

(a) True

(b) False

(c) Lambda is a function in python but user can not use it.

(d) None of the above

19. What is a variable defined outside a function referred to as?

(a) local variable (b) global variable

(c) static Variable (d) automatic variable

20. What is the output of the following program?

```
z = lambda x : x * x
print(z(6))
```

(a) 6 (b) 36

(c) 0 (d) error

21. What is the output of the following program?

```
print (chr(ord(chr(97))))
```

(a) a (b) A

(c) 97 (d) error

22. Choose the correct option with reference to below Python code?

```
def fn(a):
print(a)
x=90
fn(x)
```

(a) x is the formal argument.

(b) a is the actual argument.

(c) fn(x) is the function signature.

(d) x is the actual argument.

23. Which one of the following is incorrect?

(a) The variables used inside function are called local variables.

(b) The local variables of a particular function can be used inside other functions, but these cannot be used in global space.

(d) The variables used outside function are called global variables.

(e) In order to change the value of global variable inside function, keyword global is used.

24. Name the statement that sends back a value from a function.

(a) print (b) input

(c) return (d) None

25. Functions that do not return any value are known as:

(a) fruitful functions

(b) void functions

(c) library functions

(d) user-defined functions

26. A variable created or defined within a function body is classified as:

(a) local (b) global

(c) built-in (d) instance

27. **Which of the following arguments works with implicit values that are used if no value is provided?**
(a) keyword (b) required
(c) variable-length (d) default

28. **Which values are used by the functions to communicate information back to the caller?**
(a) local (b) global
(c) return (d) random

29. **What is the output of the program given below?**
```
x = 50
def func (x) :
x = 2
func (x)
print ('x is now', x)
```
(a) x is now 50 (b) x is now 2
(c) x is now 100 (d) Error

30. **Fill in the line of code for calculating the factorial of a number:**
```
def fact (num):
if num == 0 :
return 1
else:
return _____
```
(a) num*fact(num-1)
(b) (num-1)*(num-2)
(c) num*(num-1)
(d) fact(num)*fact(num-1)

31. **What is the output of the following ?**
```
def fun (n):
if (n > 100):
return n - 5
return fun (fun (n+11))
print (fun (45))
```
(a) 50 (b) 100
(c) 74 (d) Infinite loop

32. **What is the default return value for a function that does not return any value explicitly?**
(a) None (b) int
(c) double (d) null

33. **Which of the following items are present in the function header?**
(a) function name only
(b) both function name and parameter list
(c) parameter list only
(d) return value

34. **Pick one the following statements to correctly complete the function body in the given code snippet.**
```
def f(number):
# Missing function body
print(f(5))
```
(a) return "number" (b) print(number)
(c) print("number") (d) return number

35. **Which of the following function headers is correct?**
(a) def f(a = 1, b):
(b) def f(a = 1, b, c = 2):
(c) def f(a = 1, b = 1, c = 2):
(d) def f(a = 1, b = 1, c = 2, d):

36. **Which of the following function calls can be used to invoke the below function definition?**
```
def test(a, b, c, d)
```
(a) test(1, 2, 3, 4)
(b) test(a = 1, 2, 3, 4)
(c) test(a = 1, b = 2, c = 3, 4)
(d) test(a = 1, b = 2, c = 3, d)

37. Which of the following function calls will cause Error while invoking the below function definition?

def test(a, b, c, d)

(a) test(1, 2, 3, 4)

(b) test(a = 1, b = 2, c = 3, d = 4)

(c) test(a = 1, b = 2, c = 3, 4)

(d) None of these

38. What is a variable defined outside all the functions referred to as?

(a) A static variable

(b) A global variable

(c) A local variable

(d) An automatic variable

39. What is a variable defined inside a function referred to as

(a) A static variable

(b) A global variable

(c) A local variable

(d) An automatic variable

40. Carefully observe the code and give the answer.

def function1(a)

a= a + '1'

a = a * 2

>>>function1("hello")

(a) indentation Error

(b) cannot perform mathematical operation on strings

(c) hello2

(d) hello2hello2

41. What is the result of this code?

defprint_double(x):

print(2 ** x)

print_double(3)

(a) 8 (b) 6

(c) 4 (d) 10

42. Which of the given argument types can be skipped from a function call?

(a) positional arguments

(b) keyword arguments

(c) named arguments

(d) default arguments

43. Python function classified into _____ categories.

(a) 1 (b) 2

(c) 3 (d) 4

44. Which are python function types

(a) Built- in function

(b) User defined function

(c) Functions defined in module

(d) All of these

45. Functions pre-defined in a particular modules and can be used when the Corresponding module is

(a) imported (b) exported

(c) return (d) None of these

46. Function may or may not have return statement.

(a) true (b) false

(c) can't say (d) None of these

47. The first line of function definition starts with ____ and end with _____.

(a) def , : (b) def , ::

(c) definition , : (d) definition, }

48. Python refers to value being passed as _____.

(a) arguments (b) parameters

(c) both A & B (d) None of these

49. Python refers to value being received as _____

(a) arguments (b) parameters

(c) both A & B (d) None of these

50. Arguments appear in _____ and parameters appear in _____.

(a) function call statement, function header

(b) function header, function call statement

(c) both A & B

(d) None of these

51. Arguments in python can be one of these value types

(a) literals (b) variables

(c) expression (d) All of the above

52. Python supports _____ types of formal arguments/parameters.

(a) 1 (b) 2

(c) 3 (d) 4

53. Which one is a not formal argument?

(a) positional arguments (required arguments)

(b) default arguments

(c) keyword (or named arguments)

(d) value arguments

54. Functions that return a value are known as:

(a) fruitful functions

(b) void functions

(c) library functions

(d) user-defined functions

55. Which of these is false about recursion?

(a) Recursive function can be replaced by a non-recursive function

(b) Recursive functions usually take more memory space than non-recursive function

(c) Recursive functions run faster than non-recursive function

(d) Recursion makes programs easier to understand

56. What will be the output of the following Python code?

```
def test(i,j):
if(i==0):
return j
else:
return test(i-1,i+j)
print(test(4,7))
```

(a) 13 (b) 7

(c) Infinite loop (d) 17

57. What is tail recursion?

(a) A recursive function that has two base cases

(b) A function where the recursive functions leads to an infinite loop

(c) A recursive function where the function doesn't return anything and just prints the values

(d) A function where the recursive call is the last thing executed by the function

58. Recursion and iteration are the same programming approach.

(a) True (b) False

(c) Can't say (d) None

59. What happens if the base condition isn't defined in recursive programs?

(a) Program gets into an infinite loop

(b) Program runs once

(c) Program runs n number of times where n is the argument given to the function

(d) An exception is thrown

60. To open a file c:\scores.txt for reading, we use _____.

(a) infile = open("c:\scores.txt", "r")

(b) infile = open("c:\\scores.txt", "r")

(c) infile = open(file = "c:\scores.txt", "r")

(d) infile = open(file = "c:\\scores.txt", "r")

61. To open a file c:\scores.txt for writing, we use _____.

(a) outfile = open("c:\scores.txt", "w")

(b) outfile = open("c:\\scores.txt", "w")

(c) outfile = open(file = "c:\scores.txt", "w")

(d) outfile = open(file = "c:\\scores.txt", "w")

62. To open a file c:\scores.txt for appending data, we use _____.

(a) outfile = open("c:\\scores.txt", "a")

(b) outfile = open("c:\\scores.txt", "rw")

(d) outfile = open(file = "c:\scores.txt", "w")

(d) outfile = open(file = "c:\\scores.txt", "w")

63. To read two characters from a file object infile, we use _____.

(a) infile.read(2) (b) infile.read()

(c) infile.readline() (d) infile.readlines()

64. To read the next line of the file from a file object infile, we use _____.

(a) infile.read(2) (b) infile.read()

(c) infile.readline() (d) infile.readlines()

65. The readlines() method returns _____.

(a) Str

(b) a list of lines

(c) a list of single characters

(d) a list of integers

ANSWER KEYS

1. (c) def
2. (d) Both A and B
3. (b) method
4. (a) None
5. (b) A function which calls itself repeatedly
6. (b) Id() returns the identity of the object.
7. (b) stack
8. (c) deffunction_name():
9. (a) function_name()
10. (b) user-defined functions
11. (d) def
12. (c) :
13. (a) No
14. (a) Required arguments
15. (c) from math import pi
    print(pi)
16. (a) .
17. (d) All of the above
18. (a) True
19. (b) global variable
20. (b) 36
21. (a) a
22. (d) x is the actual argument.
23. (b) The local variables of a particular function can be used inside other functions, but these cannot be used in global space
24. (c) return
25. (b) void functions
26. (a) local
27. (d) default
28. (c) return
29. (a) x is now 50
30. (a) num*fact (num-1)
31. (b) 100
32. (a) None
33. (a) both function name and parameter list
34. (d) return number
35. (c) def f(a = 1, b = 1, c = 2):
36. (a) test(1, 2, 3, 4)
37. (c) test(a = 1, b = 2, c = 3, 4)

38. (b) A global variable
39. (c) A local variable
40. (a) indentation Error
41. (a) 8
42. (d) default arguments
43. (c) 3
44. (d) All of these
45. (a) imported
46. (a) true
47. (a) def , :
48. (a) arguments
49. (b) parameters
50. (a) function call statement, function header
51. (d) All of the above
52. (c) 3
53. (d) value arguments
54. (a) fruitful functions
55. (c) Recursive functions run faster than non-recursive function
56. (d) 17
57. (d) A function where the recursive call is the last thing executed by the function
58. (b) False
59. (a) Program gets into an infinite loop
60. (b) infile = open("c:\\scores.txt", "r")
61. (b) outfile = open("c:\\scores.txt", "w")
62. (a) outfile = open("c:\\scores.txt", "a")
63. (a) infile.read(2)
64. (c) infile.readline()
65. (b) a list of lines

(b) Very Short type questions with answers

What will be the output of the following Python codes:

1.
```
def Fun1():
    print('Python, let's fun with functions')
Fun1()
```

Ans. Python, let's fun with functions.

Explanation: The code has a simple print function. is used to print character ' in python language.

2.
```
def add(i):
    if (i*3%2==0):
        i*=i
    else:
        i*=4
    return i
a=add(10)
print(a)
```

Ans.: 100

Explanation:

A add() passed one variable i.e a=10. So i=10

10 * 3% 2=0 means first priority will be given to * operator

30 % 2 = 0, Condition is True as remainder will be 0

i*=i i.e. i=10*10=100.

3.
```
import math
def area(r):
    return math.pi*r*r
a=int(area(10))
    print(a)
```

Ans.: 314

Explanation: Function area() has one parameter r, and passed value is 10. When it execute the return statement of function, it calculates value 3.14*10*10 (pie= 3.141592653589793), so the answer will be 314.1592653589793. Now in call statement int() function is used that converts answer into interger.

4.
```
def fun1(x, y):
    x = x + y
    y = x - y
    x = x - y
    print('a=',x)
    print('b=',y)
a = 5
b = 3
fun1(a,b)
```

Ans.: a= 3, b= 5

Explanation: a = 5 and b = 3 passed into function. When cursor jumps to function header fun1(x,y) is seems like fun1(5,3). Then

x = x + y i.e. x = 5 + 3 = 8
y = x - y i.e. y = 8 - 3 = 5
x = x - y i.e. x = 8 - 5 = 3
So finally a 3 and b = 5.

5.
```
def div5(n):
    if n%5==0:
        return n*5
    else:
        return n+5
def output(m=5):
    for i in range(0,m):
        print(div5(i),'@',end=" ")
    print('n')
    output(7)
    output()
    output(3)
```

Ans.:

0 @ 6 @ 7 @ 8 @ 9 @ 25 @ 11 @
0 @ 6 @ 7 @ 8 @ 9 @
0 @ 6 @ 7 @

Explanation:
The function output(7) à in this case m=7
Now, the range starts with 0 to 6.
When i = 0, div5(i), 0 % 5 = 0 ' n * 5 ' 0 * 5 ' 0,
Now jump to loop ' print ' o @
When i = 1, div5(i), 1 % 5 = 1 ' n + 5 ' 1 + 5 ' 6,
Now jump to loop 'print à 6 @
When i = 2, div5(i), 2 % 5 = 2 ' n + 5 ' 2 + 5 ' 7,
Now jump to loop ' print ' 7 @
When i = 3, div5(i) 3 % 5 = 3 ' n + 5 ' 3 + 5 ' 8,
Now jump to loop ' print '8 @
When i = 4, div5(i) 4 % 5 = 4 ' n + 5 ' 4 + 5 ' 9,
Now jump to loop ' print ' 9 @
When i = 5, div5(i) 5 % 5 = 0 ' n + 5 ' 5 * 5 ' 25,
Now jump to loop 'print ' 25 @
When i = 6, div5(i) 6 % 5 = 1 ' n + 5 ' 6 + 5 ' 25,
Now jump to loop ' print ' 11 @
So line 1 is 0 @ 6 @ 7 @ 8 @ 9 @ 25 @ 11 @

6.
```
def sum(*n):
    total=0
    for i in n:
        total+=i
        print ('Sum=', total)
sum()
sum(5)
sum(10,20,30)
```

Ans.:

Sum= 5
Sum= 10
Sum= 30
Sum= 60

Explanation:
Function 1:
sum() without argument so output is None.
Function 2:
sum(5) ' i = 5' total + = i ' total = total + i ' 0 + 5 ' 5
Function 3:
sum(10,20,30) ' n(10,20,30) ' i = 10 ' total + i
= 0 + 10 ' 10
sum(10,20,30) ' n(10,20,30) ' i = 20 ' total + i
= 10 + 20 ' 30
sum(10,20,30) ' n(10,20,30) ' i = 30 ' total + i
= 30 + 30 ' 60

7.
```
def func(b):
    global x
    print('Global x=', x)
    y = x + b
    x = 7
    z = x - b
    print('Local x =', x)
    print('y =', y)
    print('z =', z)
x=5
func(10)
```

Ans: x is used as global and local variable.
Global x= 5
Local x = 7
y = 15
z = -3

Explanation:

Values of variables: x global '5 , b passed as an argument 10
y = x + b = 5 + 10 ' 15
x = 7
z = 7 - 10 = -3

8.
```
def func(x,y=100):
    temp = x + y
    x += temp
    if(y!=200):
        print(temp,x,x)
a=20
b=10
func(b)
print(a,b)
func(a,b)
print(a,b)
```

Ans.:

110 120 120
20 10
30 50 50
20 10

Explanation:

Function 1:

func(b)'x=b=10, y=100'temp = 10 + 100 = 110'x = 110 + 10'120'120!=200 ' 120

So Line 1, print(temp,x,x) ' temp=110, x 120 ' 110 120 120

Line 2 print(a,b) ' 20 10

Function 2:

Func(a,b)'x=20, y=10'temp = 20 + 10'30' x = 30 + 20 ' 50 ' 50!=200'50

Line 3 print(temp,x,x) 'temp=30, x=50' 30 50 50

Line 4 print(a,b) ' 20 10

9.
```
def get(x,y,z):
    x+=y
    y-=1
    z*=(x-y)
    print(x,'#',y,'#',z)
def put(z,y,x):
    x*=y
    y+=1
    z*=(x+y)
    print(x,'$',y,'$',z)
a=10
b=20
c=5
put(a,c,b)
get(b,c,a)
put(a,b,c)
get(a,c,b)
```

Ans.:

100 $ 6 $ 1060
25 # 4 # 210
100 $ 21 $ 1210
15 # 4 # 220

Explanation:

Function 1:

put(a,c,b)'a=z=10, c=y=5, b=x=20
x= 5 x 20 ' 100 ' y= 5 + 1 = 6' z = 10 * (100 +6) ' 1060

Line 1 print(x,'$',y,'$',z) ' 100 $ 6 $ 1060

Function 2:

get(b,c,a)'b=x=20, c=y=5, z=a=10
x = 20 + 5 = 25 ' y = 5 - 1 = 4 ' z = 10 * (25-4) ' 10 * 21 ' 210

Line 1 print(x,'$',y,'$',z) ' 25 # 4 # 210

Similarly function 3 & function 4 will execute.

Error-based questions

1.
```
def in(x,y):
    x=x + y
    print(x.y)
    x*=y
    print(x**y)
```

Ans. def in(x,y): → in can't be used as function name because it's a keyword

print(x.y) → The variable in python print() function separate by comma not dot

2.
```
void get(x=10,y):
    x = x + y
    print(x,n,y)
```

Ans. void get(x=10,y): → Default argument must be assign a value from right to left

print(x,n,y) → 'n' must be enclosed with quotes

3.
```
// Program to compute result
def res():
    eng = 56
    math = 40
    sci = 60
    if eng<=35 || math<=35 ||
        sci=35
        print('Not Qualified')
        else:
        print("Qualified")
```

Ans. // Program to compute result → // is not used in python, it should be #

if eng<=35 || math<=35 || → || is not any operator in python, it should be or

sci=35 → It should written in above line or should be use in upper line

4.
```
a=5, b=10
def swap(x,y):
    x = a + b
    y = x - y
    x = x - y
swap(a)
swap(15,34)
swap(b)
swap(a,b)
```

Ans. a=5, b=10 → In python variable should not assign in single line by comma

swap(a) → The positional arguments must be passed

swap(b) → Same as above

5.
```
def cal_dis(qty,rate=50,dis_rate):
#discount rate = 5%
    bil_amt = (qty*rate)*dis_rate
    print(bil_amt)
caldis(10)
cal_dis(10,50,0.05)
```

Ans. `def cal_dis(qty,rate=50,dis_rate=0.05):` #discount rate = 5%

caldis(10) → Function call statement; cal_dis should be there

2.1 Working with Functions

1. Aman wants to write a function in python. But he doesn't know how to start with it! Select the keyword used to start a function out of the following:

(a) function (b) start
(c) def (d) fun

2. Which of the following is a valid function name?

(a) start_game() (b) start game()
(c) start-game() (d) All of the above

3. Which of the following is not a part of the python function?

(a) function header (b) return statement
(c) parameter list (d) function keyword

4. If the return statement is not used in the function then which type of value will be returned by the function?

(a) int (b) str
(c) float (d) None

5. The function header contains

(a) function name and parameters only
(b) def keyword along with function name and parameters
(c) return statement only
(d) parameter list only

6. The subprogram that acts on data and returns the value sometimes is known as

(a) Function (b) Module
(c) Class (d) Package

7. Read the statements:

Statement (A) : A function can perform certain functionality

Statement (B) : A function must return a result value

(a) Statement A is correct
(b) Statement B is correct
(c) Statement A is correct but Statement B is not correct
(d) Both are incorrect

8. Richa is working with a program where she gave some values to the function. She doesn't know the term to relate these values. Help her by selecting the correct option.

(a) function value
(b) arguments or parameters
(c) return values
(d) function call

9. Mohini wants to know that the symbol : (colon) must be required with which of the following function part?

(a) function header (b) function body
(c) return statement (d) parameters

10. Which of the function part contains the instructions for the tasks to be done in the function?

(a) function header (d) function body
(c) return statement (d) parameters

11. Ananya is trying to understand the features of python functions. She is not understanding the feature that distributes the work in small parts. Select the appropriate term for her out of the following:

(a) Modularity (b) Reusability
(c) Simplicity (d) Abstraction

12. Which of the following is not a feature supported by python functions

(a) Modularity (b) Reusability
(c) Simplicity (d) Data Hiding

13. **Divya wants to print the identity of the object used in the function. Which of the following function is used to print the same?**

(a) identity() (b) ide()

(c) id() (d) idy()

14. **Rashmin is learning the python functions He read the topic types of python functions. He read that functions already available in the python library is called _____.**

Fill appropriate word in this blank :

(a) UDF (User Defined Function)

(b) Built-in Functions

(c) Modules

(d) Reusable Function

15. **Which of the following sentence is not correct for the python function?**

(a) Python function must have arguments

(b) Python function can take an unlimited number of arguments

(c) Python function can return multiple values

(d) To return value you need to write the return statement

16. **Pranjal wants to write a function to compute the square of a given number. But he missed one statement in the function. Select the statement for the following code:**

```
defsq(n):
_____
print(sq(3))
```

(a) return square of n

(b) return n**2

(c) return n

(d) print("n**n")

17. **Select the proper order of execution for the following code:**

(A) def diff(a,b):

(B) c=a-b

(C) print("The Difference is :",c)

(D) x,y =7,3

(E) diff(x,y)

(F) print("Finished")

(a) A -> B -> C -> D -> E -> F

(b) D -> E -> F -> A -> B -> C

(c) D -> E -> A -> B -> C -> F

(d) E -> B -> C -> D -> A -> F

18. **What is the maximum and minimum value of c in the following code snippet?**

```
import random
a = random.randint(3,5)
b = random.randint(2,3)
c = a + b
print(c)
```

(a) 3 , 5 (b) 5, 8

(c) 2, 3 (d) 3, 3

19. **By default python names the segment with top-level statement as _____.**

(a) def main() (b) main()

(c) __main__ (d) _main

20. **The order of executing statements in a function is called**

(a) flow of execution

(b) order of execution

(c) sequence of execution

(d) process of execution

21. **In python function, the function calling another function is known as ____and the function being called is known ___.**

(a) main, keyword (b) caller, called

(c) called, caller (d) executer, execute

22. Archi is confused between arguments and parameters. Select the fact about argument and parameter and solve her doubt

(a) arguments are those values being passed and parameters are those values received

(b) parameters are those values being passed and arguments are those values received

c) arguments appear in the function header and parameters appear in the function call

d) arguments can have same name and parameters can have value type

23. The value is passed through a function call statement is called _____ and the values being received in the definition is known as _____.

(a) formal parameter, actual parameter

(b) actual parameter, formal parameter

(c) passed parameter, received parameter

(d) value parameter, constant parameter

24. The positional parameters are also known as

(a) required arguments

(b) mandatory arguments

(c) Both a and b

(d) None of them

25. Which of the following is true about the default argument

(a) default values are provided in the function call

b) default values are provided in the function body

c) default values are provided with the return statement

d) default values are provided in the function header

26. The default valued parameter specified in the function header becomes optional in the function calling statement.

(a) Yes (b) No

(c) Not Sure (d) May be

27. Which of the following function header is correct :

(a) def discount(rate=7,qty,dis=5)

(b) def discount(rate=7,qty,dis)

(c) def discount(rate,qty,dis=5)

(d) def discount(qty,rate=7,dis)

28. Read the following statements and then select the answer:

Statement A: Default arguments can be used to add new parameters to the existing functions

Statement B: Default arguments can be used to combine similar functions into one

(a) Statement A is correct

(b) Statement B is correct

(c) Both are correct

(d) Both are incorrect

29. What will be the output of the following code?

```
def fun(x=10, y=20):
x+=5
y = y - 3
return x*y
print(fun(5),fun())
```

(a) 20, 200 (b) 170, 255

(c) 85, 200 (d) 300, 500

30. What will be the output of the following code?

```
v = 80
def display(n):
global v
v = 15
if n%4==0:
v += n
else:
v -= n
print(v, end="#")
display(20)
print(v)
```

(a) 80#80 (b) 80#100

(c) 80#35 (d) 80#20

31. Observe the following lines written for the calling statement and select the appropriate answer:

```
ele_bill(past_reading=200,rate=6,current_reading=345)
ele_bill(current_reading=345,rate=6,past_reading=200)
ele_bill(rate=6,past_reading=200,current_reading=345)
```

(a) all lines have errors

(b) Only line 1 will execute and the rest will raise an error

(c) All lines are correct and no errors

(d) only line 3 is correct

32. What will be the output of the following?

```
def Val(m,n):
for i in range(n):
if m[i]<30:
m[i]//=5
elif m[i]%5 == 0:
m[i]//=3
else:
m[i]//=2
l = [25,8,75,12]
Val(l,4)
for i in l:
print(i,end="$")
```

(a) 1$1$2$25$2$ (b) 5$1$25$2$

(c) 1$4$25$3$ (d) 5$2$15$2$

33. What will be the output of the following code:

```
defor_cap_update(pl,r,i):
pl['Runs']+=r
pl['Innings']+=i
pl1={'S.No':1,'Name':'K
L Rahul','Runs':528,'Innings':12}
pl2={'S.No':2,'Name':
'Rituraj Gaikwad','Runs':521,'Innings':13}
or_cap_update(pl1,35,1)
or_cap_update(pl2,35,1)
print(pl1)
print(pl2)
```

(a) {'S.No': 1, 'Name': 'K L Rahul', 'Runs': 35, 'Innings': 1}
{'S.No': 2, 'Name': 'RiturajGaikwad', 'Runs': 35, 'Innings': 1}

(b) {'S.No': 1, 'Name': 'K L Rahul', 'Runs': 563, 'Innings': 13}
{'S.No': 2, 'Name': 'RiturajGaikwad', 'Runs': 556, 'Innings': 14}

(c) {'S.No': 1, 'Name': 'K L Rahul', 'Runs': 528, 'Innings': 12}
{'S.No': 2, 'Name': 'RiturajGaikwad', 'Runs': 521, 'Innings': 13}

(d) {'S.No': 1, 'Name': 'K L Rahul', 'Runs': 528, 'Innings': 1}
{'S.No': 2, 'Name': 'RiturajGaikwad', 'Runs': 521, 'Innings': 1}

34. Which of the following variable is defined outside the function?

(a) local (b) global

(c) enclosed (d) all of these

ANSWER KEYS

1. (c) def
2. (a) start_game()
3. (d) function keyword
4. (d) None
5. (b) def keyword along with function name and parameters
6. (a) Function
7. (c) Statement A is correct but Statement B is not correct
8. (b) arguments of parameters
9. (a) function header
10. (b) function body
11. (a) Modularity
12. (d) Data Hiding
13. (c) id()
14. (b) Built-in functions
15. (a) Python function must have arguments
16. (b) return n**2
17. (c) D -> E-> -> A -> B -> C -> F
18. (b) 5,8
19. (c) __main__
20. (a) flow of execution
21. (b) caller, called
22. a) arguments are those values being passed and parameters are those values received
23. b) actual parameter, formal parameter
24. c) Both a and b
25. d) default values are provided in the function header
26. a) Yes
27. c) def discount(rate,qty,dis=5)
28. c) Both are correct
29. b) 170, 255
30. c) 80#35
31. c) All lines are correct and no errors
32. (b) 5$1$25$2$
33. (b) {'S.No': 1, 'Name': 'K L Rahul', 'Runs': 563, 'Innings': 13}

    {'S.No': 2, 'Name': 'RiturajGaikwad', 'Runs': 556, 'Innings': 14}
34. (b) global

Function Case Study based Questions

Observe the following code and select appropriate answers for the given questions:

```
total = 1
def multiply(l):#Line 1
for x in l:
_______ total  #Line2
total *= x
return _______      #Line3 - Reutrn variable
l=[2,3,4]
print(multiply(_____),end="") # Line4
print(" , Thank you ")
```

35. Identify the part of function in #Line1?

(a) Function header (b) Function Calling
(c) Return statement (d) Default Argument

36. Which of the keyword is used to fill in the blank for #Line2 to run the program without error?

(a) eval (b) def
(c) global (d) return

37. Which variable is going to be returned in #Line3

(a) total (b) x
(c) l (d) None

38. Which variable is required in the #Line4?

(a) total (b) x
(c) l (d) None

39. In the line #Line4 the multiply(l) is called _____

(a) caller (b) called
(c) parameter (d) argument

40. In function header multiply(l), l refers to _____

(a) caller (b) called
(c) parameter (d) argument

41. In function calling multiply(l), l refers to_____

(a) caller (b) called
(c) parameter (d) argument

42. What will be the output of this code?

(a) 2 3 4 , Thank you (b) 234 , Thank You
(c) 24 , Thank you (d) Thank You

43. Which of the following statement indicates the correct statement for the formal parameter passing technique?

(a) multiply(l)
(b) multiply(l=[23,45,66])
(c) multiply([23,45,66])
(d) multiply(23,45,66)

44. Which of the following statement indicates the correct statement for the actual parameter passing technique?

(a) multiply(l)
(b) multiply(l=[23,45,66])
(c) multiply([23,45,66])
(d) multiply(23,45,66)

45. Sonal wants to modify the function with the specification of length of list with default argument statement for the function with the list and 10 elements by default. Which of the following statement is correct?

(a) def multiply(n=10,l):
(b) def multiply(l,n=10):
(c) def multiply(l,10):
(d) defmyultiply(l=[22,34,56,22,33,12,45,66,7,1])

46. Diya wants to call the function with default argument value in the function to display the product of list tobject l. Select the correc statement for her to the same.

(a) multiply(l) (b) multiply(10)
(c) multiply(l,n) (d) multiply(n,l)

ANSWER KEYS

35. (a) Function Header
36. (c) global
37. (a) total
38. (c) l
39. (a) caller
40. (b) argument
41. (c) parameter
42. (d) 24, Thank You
43. (a) multiply(l)
44. (c) multiply([23,45,66])
45. b) def multiply(l,n=10)
46. a) multiply(l)

3. INTRODUCTION TO FILES

(Python Revision Tour)

1. Python identifiers are case sensitive.

(a) True
(b) False
(c) Depends on Program
(d) Depends on the computer system

2. Which of the following is an invalid identifier ?

(a) CS_class_XII (b) csclass12
(c) _csclass12 (d) 12CS

3. The tiny individual unit in python program is known as _____.

(a) Expression (b) Statement
(c) Token (d) Comment

4. Which of the following not a token?

(a) Comments (b) Identifiers
(c) Literals (d) Operators

5. Which of the following are pre-defined or reserved words that convey a special meaning in programming language?

(a) Identifiers (b) Literals
(c) Keywords (d) Operators

6. The different names given to different parts of a program is known as _____.

(a) Identifiers (b) Literals
(c) Keywords (d) Operators

7. Which of the following literals must terminate in one line?

(a) Single line Strings (b) Multi line strings
(c) Numeric Literals (d) All of the above

8. To include non-graphic characters in python, which of the following is used?

(a) Special Literals
(b) Boolean Literals
(c) Escape Character Sequence
(d) Special Literal - None

9. The octal literal and hexadecimal literals start with which of the following symbols respectively?

(a) O0 and X0 (b) 0O and 0X
(c) Oct0 and Hex0 (d) 0o and 0x

10. Which of the following literal has either True or False value?

(a) Special Literals (b) Boolean Literals
(c) Numeric Literals (d) String Literals

11. Which of the following are symbols used for computation or logical comparison in a program?

(a) Identifiers (b) Literals
(c) Keywords (d) Operators

12. Which of the following is correct statement to computer square of variable x in python?

(a) x * 2 (b) x power 2
(c) x ** 2 (d) x // 2

13. If you want to display the values without decimal place after division, which of the following symbol is used?

(a) / (b) //
(c) % (d) **

14. Which of the following is a correct statement?

(a) xyz = 10 100 1000
(b) x y z = 10 100 1000
(c) x, y, z = 10, 100, 1000
(d) x y z= 10, 100, 1000

15. **Which of the following are symbols used in programming languages to organize statement structures and inidicate the rythm of the program?**
(a) Operators (b) Punctuators
(c) Functions (d) Literals

16. **In python, the single line comments starts with _____.**
(a) / (b) //
(c) # (d) '''

17. **In python, the multiline comments starts with _____**
(a) / (b) //
(c) # (d) '''

18. **___ are additional readable information to clarify the statement in python.**
(a) Comments (b) Expressions
(c) Tokens (d) Flow of control

19. **Which of the following is a group of statements which are part of another statement or functions?**
(a) Expression (b) Statement
(c) Block (d) Comment

20. **All statements inside a block are intended at same level.**
(a) True
(b) False
(c) Not necessarily
(d) Depends on user's choice

21. **By default the input() function returns**
(a) Integer (b) Float
(c) Boolean (d) String

22. **If a function does not return a value then what value will be returned by python in a function?**
(a) int (b) void
(c) bool (d) none

23. **The output of d= a + b % c is _____, if a = 12, b=5 and c=3.**
(a) 14 (b) 2
(c) 5 (d) 17

24. **Evaluate x % y // x, if x = 5, y = 4**
(a) 1.0 (b) 0.0
(c) 0 (d) 1

25. **Which of these arithmetic operators will evaluate first?**
(a) + (b) -
(c) ** (d) %

26. **Which of the following logical operator will evaluate first?**
(a) and (b) or
(c) not (d) is not

27. **How a>b>c will be interpreted by python?**
(a) a>b or a>c (b) a>b not a>c
(c) a>b and a>c (d) a>b && a>c

28. **Which of the following statement is correct for and operator?**
(a) Python only evaluates the second argument if the first one is False
(b) Python only evaluates the second argument if the first one is True
(c) Python only evaluates True if any one argument is True
(d) Python only evaluates False if any one argument is False

29. **Which of the following forces an expression to be converted into specific type?**
(a) implicit type casting
(b) mutable type casting
(c) immutable type casting
(d) explicit type casting

30. _____ are stored as individual characters in contiguous locations, with two-way index for each location.

(a) lists (b) tuples

(c) strings (d) dictionaries

31. What is the output of - "5" + "5"?

(a) 25 (b) 55

(c) 10 (d) Error

32. If n="Hello" and user wants to assign n[0]='F' what will be the result?

(a) It will replace the first character

(b) It's not allowed in Python to assign a value to individual character using index

(c) It will replace the entire word Hello into F

(d) It will remove H and keep rest of the characters

33. Which of the following operator can be used as replication operator?

(a) + (b) *

(c) ** (d) /

34. Which point can be considered as difference between string and list?

(a) Length

(b) Indexing and Slicing

(c) Mutability

(d) Accessing individual elements

35. In list slicing, the start and stop can be given beyond limits. If it is then

(a) raise exception IndexError

(b) raise exception ValueError

(c) return elements falling between specified start and stop values

(d) return the entire list

36. In list slicing negative index-1 refers to

(a) first element

(b) last element

(c) second last element

(d) second element

37. Which of the following operator cannot used with strings?

(a) == (b) +

(c) * (d) /

38. Ms. Hetvee is working on a string program. She wants to display last four characters of a string object named s. Which of the following is statement is true?

(a) s[4:] (b) s[:4]

(c) s[-4:] (d) s[:-4]

39. The append() method adds an element at

(a) first (b) last

(c) specified index (d) at any location

40. Which of the following statement is true for extend() list method?

(a) ads element at last

(b) ads multiple elements at last

(c) ads element at specified index

(d) ads elements at random index

41. The statement del l[1:3] do which of the following task?

(a) deletes elements 2 to 4 elements from the list

(b) deletes 2nd and 3rd element from the list

(c) deletes 1st and 3rd element from the list

(d) deletes 1st, 2nd and 3rd element from the list

42. If l=[11,22,33,44], then output of print(len(l)) will be

(a) 4 (b) 3

(c) 8 (d) 6

43. Which of the following method is used to delete element from the list?

(a) del() (b) delete()

(c) pop() (d) All of these

44. What will be the output of following code:

```
txt="Term 1"
print(txt*2)
```

(a) Term 1 Term 2 (b) Term 1Term 1

(c) Term 1 2 (d) TTeerrmm 11

45. What will be the output of:

```
txt="SQP2021"
if txt.isalnum()==True:
print("Term 1 sample paper is out now")
else:
print("Term 1 sample paper is not out till now")
```

(a) Term 1 sample paper is not out till now

(b) Term 1 sample paper is out now

(c) SQP2021

(d) Error

46. What will be the output of the following statement given:

```
txt="term 1. sample paper 2021"
print(txt.capitalize())
```

(a) term 1. sample paper 2021

(b) Term 1. Sample Saper 2021

(c) Term 1. sample paper 2021

(d) Term 1. Sample Paper 2021

47. Which of the following statement prints output as 'B'?

(a) char(66) (b) ord('B')

(c) char(66) (d) chr(66)

48. Which of the following statement(s) is/are correct?

(a) Tuples can have only integer elements.

(b) Tuples can have only string elements.

(c) Tuples can have various types of elements.

(d) Tuples can either integer or string, but not both at once.

49. Which of the following statement creates a tuple?

(a) t=[1,,2,3,4] (b) t={1,2,3,4}

(c) t=<1,2,3,4> (d) t=(1,2,3,4)

50. Which of the following statement is correct?

(a) Tuples are mutable.

(b) Tuples are immutable.

(c) Tuples and lists are same.

(d) All of these are correct.

51. What will be the output of the following code:

```
t=(4,5,6)
t1=t*2
print(t1)
```

(a) (4,5,6,4,5,6) (b) (4,4,5,5,6,6)

(c) (8,10,12) (d) None of the above

52. What will be the output of :

```
t=(4,5,6)
del t[1]
print(t)
```

(a) (4,6) (b) ([4,6])

(c) [4,6] (d) Error

53. Which of the following operation is supported in python with respect to tuple t?

(a) t[1]=33 (b) t.append(33)

(c) t=t+t (d) t.sum()

54. Which of the following statements prints the output (4,5)?

(a) print(t[:-1]) , print(t[0:2])

(b) print(t[3]), print(t[:-3])

(c) print(t[2:3]), print(3:2)

(d) print(t[0,2]), print[2,3]

55. What will be the output of the following code:

t=(4,5,6,7,8,9,3,2,1)

print(t[5:-1])

(a) (8,9,3,2,1) (b) (9,3,2)

(c) (4,5,6,7) (d) (2,3,9)

ANSWER KEYS

1. (a) True
2. (d) 12CS
3. (c) Token
4. (a) Comments
5. (c) Keywords
6. (a) Identifiers
7. (a) Single line Strings
8. (a) Escape Character Sequence
9. (a) 0o and 0x
10. (b) Boolean Literals
11. (d) Operators
12. (c) x ** 2
13. (c) %
14. (c) x, y, z = 10, 100, 1000
15. (b) Punctuators
16. (c) #
17. (c) #

Note: Python does not really have syntax for multiline comments. To add a multiline comment you could insert a # for each line

18. (a) Comments
19. (c) Block
20. (a) True
21. (d) String
22. (d) none
23. (a) 14
24. (c) 0
25. (c) **
26. (c) not
27. (c) a>b and a>c
28. (b) Python only evaluates the second argument if the first one is True
29. (d) explicit type casting
30. (c) strings
31. (b) 55
32. (b) It's not allowed in Python to assign a value to individual character using index
33. (b) *
34. (c) Mutability
35. (c) return elements falling between specified start and stop values
36. (b) last element
37. (d) /
38. (c) s[-4:]
39. (b) last
40. (b) ads multiple elements at last
41. (b) deletes 2nd and 3rd element from the list
42. (a) 4
43. (c) pop()
44. (b) Term 1Term 1
45. (b) Term 1 sample paper is out now
46. (c) Term 1. sample paper 2021
47. (d) chr(66)
48. (c) Tuples can have various types of elements.
49. (d) t=(1,2,3,4)
50. (b) Tuples are immutable.
51. (a) (4,5,6,4,5,6)
52. (d) Error
53. (c) t=t+t
54. (a) print(t[:-1]) , print(t[0:2])
55. (b) (9,3,2)

4. TEXT FILE (Python Files)

1. Which of the following command is used to open a file "c:\temp.txt" in read-mode only?

(a) infile = open("c:\temp.txt", "r")
(b) infile = open("c:\\temp.txt", "r")
(c) infile = open(file = "c:\temp.txt", "r+")
(d) infile = open(file = "c:\\temp.txt", "r+")

2. Which of the following command is used to open a file "c:\temp.txt" in write-mode only

(a) outfile = open("c:\temp.txt", "w")
(b) outfile = open(file = "c:\temp.txt", "w+")
(c) outfile = open(file = "c:\\temp.txt", "w+")
(d) outfile = open("c:\\temp.txt", "w")

3. Which of the following command is used to open a file "c:\temp.txt" in append-mode?

(a) outfile = open("c:\temp.txt", "a")
(b) outfile = open("c:\\temp.txt", "rw")
(c) outfile = open("c:\temp.txt", "w+")
(d) outfile = open("c:\\temp.txt", "r+")

4. Which of the following commands can be used to read "n" number of characters from a file using the file object <file>?

(a) read(n) (b) n = file.read()
(c) file.readline(n) (d) file.readlines()

5. Which of the following commands can be used to read the entire contents of a file as a string using the file object <tmpfile>?

(a) read(n) (b) read()
(c) readline() (d) readlines()

6. Which of the following commands can be used to read the next line in a file using the file object <tmpfile>?

(a) read(n) (b) tmpfile.read()
(c) readline() (d) tmpfile.readlines()

7. Which of the following commands can be used to read the remaining lines in a file using the file object <tmpfile>?

(a) read(n) (b) read()
(c) readline() (d) readlines()

8. What does the <readlines()> method returns?

(a) Str
(b) a list of lines
(c) list of single characters
(d) list of integers

9. How many types of files are there in python?

(a) 1 (b) 2
(c) 3 (d) 4

10. The files that consists of human readable characters

(a) Text file
(b) Binary file
(c) Both Text and Binary file
(d) None of the above

11. Each line of a text file is terminated by a special character, called?

(a) End of file (b) End of byte
(c) End of line (d) All the above

12. Trying to open a binary file using a text editor will show:

(a) Garbage values (b) ASCII values
(c) Binary character (d) Unicodes

13. In file handling, what does this terms means "r, a"?

(a) read, append
(b) append, read
(c) write, append
(d) none of the mentioned

14. Which function is used to read single line from file?

(a) readline() (b) readlines()
(c) readstatement() (d) readfullline()

15. Which function is used to close a file in python?

(a) close() (b) stop()
(c) end() (d) closefile()

16. A file maintains a _____ which tells the current position in the file where writing or reading will take place.

(a) line (b) file pointer
(c) list (d) order

17. Which of the following file modes opens a file for appending and reading in a binary file and moves the files pointer at the end of the file if the file already exists or creates a new file?

(a) a (b) a+
(c) ab+ (d) ab

18. Which method of pickle module is used to write onto a binary file?

(a) dump() (b) load()
(c) All of the above (d) None of the above

Case Study Questions on Text File

19. Aishwarya is running her own boutique business. She wants to store data of all orders permanently and fast processing of data through her boutique software. Suggest her to choose the appropriate technique among the following.

(a) She can use Python Dictionaries with Text files.
(b) She can use Python Dictionaries with Binary file concept.
(c) She can use Python Lists without the Binary files concept.
(d) She can use Python Dictionaries without the Binary file concept.

20. A programmer has confusion in understanding the behaviour of opening a file in "w" mode. Clear his/her confusion, by suggesting the correct option among the given below. The behaviour of "w" mode is

(a) Opening fails if the file already exists already.
(b) Opening fails if the file does not exist already.
(c) Opening will be succeeded if file exists with data and keeps the data intact
(d) Opening will be succeeded, if the file exists replaces the contents, do not exist, creates a new file.

21. Aditya is a class 12 student like you. He is practicing text file programming. He has a text file named names.txt. He wants to display all the names contained in the text file. He has written one of the following codes and succeeded in getting the output. Guess which among the following option might have given the correct output.

(a)
```
names = open("names.txt", "r")
for line in names:
print(names)
```

(b)
```
names = open("names.txt", "r")
for line in names:
print("line")
```

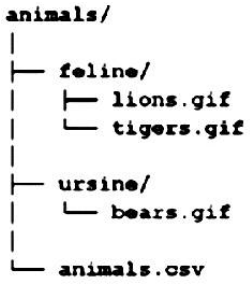
(c)
```
names = open("names.txt", "r")
for line in names:
print(line)
```

(d)
```
names = open("names.txt", "r")
for names in line:
print(line)
```

22. **A Student's windows O/S got corrupted. He is trying to access his files through Command Prompt, but unable to find out all his Binary data files pertaining to his project. Help him to find out all his binary data files by suggesting the suitable extension name among the following.**

(a) .txt (b) .bin
(c) .dat (d) .com

23. **Given the following directory structure. Assume that the CWD is in the root folder where animals directory resides. What is the relative path to the feline folder?**



(a) C:/animals/feline (b) animals/feline
(c) feline/animals (d) None of the above

24. **Given the directory structure in Q 23. Assume that the CWD is in the feline folder. What is the relative path to the file bears.gif?**

(a) C:/animals/ursine
(b) animals/ursine
(c) ..ursine/bears.gif
(d) None of the above.

25. **Given the directory structure in Q 23. Assume that the CWD is in the root folder where animals directory resides. What is the absolute path to bears.gif?**

(a) C:/animals/ursine
(b) ../animals/feline
(c) /animals/ursine/bears.gif
(d) None of the above.

26. **Given the directory structure in Q 23. Assume that the CWD is in the feline folder what is the relative path to lions.gif?**

(a) C:/animals/ursine
(b) lions.gif
(c) /animals/ursine/bears.gif
(d) None of the above.

27. **Master Adithya could able to read contents of a text file part by part. Out of the following which option he would have been used?**

(a) read() (b) readlines()
(c) readline() (d) readfullline()

28. **In a program, there is a need of reading whole content of a textfile in a single shot and store it in the form of list. Suggest the best option among the following**

(a) read() (b) readline()
(c) readlines() (d) None of the above

29. **What is the default mode when the file is opened using the open() method ?**

(a) Write (b) Read
(c) Write and read (d) Read and write

30. **The function read() is used to**

(a) Read the entire content of the file
(b) Read the entire content of the file in the form of list
(c) Read the content of the file line by line
(d) Read each string of the content of the file

31. **Which of the following statements is true with respect to closing a file**

(a) It is mandatory to close a text file which is opened
(b) Python automatically closes a file
(c) Python automatically closes a file if the reference object of the file is allocated to another
(d) None of the above

32. Which of the following statements is true?

(a) Python doesn't write data to the file until you close the file using the close() method

(b) If the file is opened for writing and is not closed, data is not written into the target file.

(c) Python can write data to the file even if you do not close the file

(d) None of the above

33. The mode "w+" is used to open the file for

(a) Read and write a text file

(b) Read and write a binary file

(c) Write and Read a text file

(d) Write and Read a binary file

34. When a file is opened in "w" mode, the file pointer is placed at

(a) the beginning of the file.

(b) The end of the file.

(c) the middle of the file.

(d) the current position of the file.

35. When a file is opened in "a" mode, the file pointer is placed at

(a) the beginning of the file.

(b) The end of the file.

(c) the middle of the file.

(d) the current position of the file.

36. (A) : If a file is opened using the "with" statement, you get better syntax and exceptions handling.

(B): When a file is opened using the "with" statement, it need not be closed using the close() function.

In the above two statements, which of the following is true?

(a) Both A and B are Wrong

(b) A is Wrong, but B is right.

(c) A is right , but B is Wrong

(d) Both A and B are right.

37. In r+ mode, if we write the file directly, it will

(a) overwrite the beginning content

(b) continue reading from the previous content

(c) continue writing from the previous content

(d) work like the append mode

38. When the file content has to be modified, we can use the _____ mode

(a) r (b) w

(c) a (d) r+

39. Rajitha, during Practical Examination of Computer Science, has been assigned an incomplete search() function to search in a text file "CAMP.txt". The file "CAMP.txt" is created by his Teacher and the following information is known about the file

(A) File contains details of camp describing events of an adventure camp in text format

(B) File contains details of adventure activities like caving, trekking, paragliding, rafting and rock climbing Rajitha has been assigned the task to complete the code and print the number of the word trekking

```
def search():
f = open("CAMP.txt",____) #Statement-1
A=_____ #Statement-2
ct=0
for x in A:
p=x.split()
if p=="trekking":
ct+=1
print(ct) _____# Statement-3
```

(i) In which mode Rajitha should open the file in Statement-1?

(a) r (b) r+

(c) rb (d) wb

(ii) Name the function that can be used by Rajitha to read the content of the file in statement -2.

(a) f.read( ) (b) f.readline ()

(c) f.readlines( ) (d) f.readl()

(iii) Which statement should Rajitha use in Statement 3 to close the file.

(a) file.close() (b) close(file)

(c) f.close() (d) close()

40. Rahul is assigned the task of storing the information of his class mates as student records in a text file "Stu2021.txt".He wants to create a file to write the records. Which of the following is not a valid mode to open a file for writing the data?

(a) w (b) r+

(c) r (d) w+

41. Rohit of class 12 is asked by his Computer Science teacher to count the number of "the" and "and" in a text file "Book.txt". He was able to do the task to some extent, but was confused in some areas. Help him out to complete the task

```
def displaytheand():
num=0 _____ #Statement 1
N=f.read()
M=N.split()
for x in M:
if x=="the" or x== "and":
print(x) num=num+1 _____ #Statement 2
print("Count of the/My in and:",num)
```

(i) Which of the following is the correct one to be used in the place of statement 1

(a) f=open("Book.txt","w")

(b) f=open("Book.txt","r")

(c) f=open("Book.txt","a")

(d) F=open("Book.txt","r")

(ii) Identify the correct statement that may be used in the place of statement 2

(a) f.close() (b) f.close("book.txt")

(c) close() (d) None of the above

42. Ajay is studying in an Engineering College in CSE branch. His sister, a class 12 student of Computer Science comes to him one day asking him the difference between r+ and w+ modes of a file. What is the correct answer Ajay would give to his sister?

(a) No difference between r+ and w+

(b) In r+ mode, the file is created if it does not exist and erases the content if the file already exists; w+ raises an error if the file does not exist

(c) In w+ mode, the file is created if it does not exist and erases the content if the file already exists; r+ raises an error if the file does not exist

(d) Depends on the operating system

43. Aparajitha joined an MNC company in Bangalore as a Python Programmer. Her task is to handle the data available for the company in the form of text files and perform the search operations based on specific criteria. Now she is asked to count the number of words in the file which start with "a" or "m" (both upper and lower cases) in a text file "Passion.txt". She needs your help as she is stuck up with some statements. Please help her out to complete the task

```
def filecreate():
f=open("Passion.txt","r") #Statement 1
f.write() f.close() # Statement 2
def count_A_M():
f=open("Passion.txt","r") # Statement 3
A,M=0,0
r=f.read()
for x in r:
if x[0]=="A" or x[0]=="a" :
```

```
A=A+1 25 elif x[0]=="M" or x[0]=="m": M=M+1
f.close()
print("A or a: ",A)
print("M or m: ",M)
```

(i) Choose the correct option to be used as statement 1

(a) f=open("Passion.txt","r")
(b) f=open("Passion.txt","r+")
(c) f=open("Passion.txt","w")
(d) f=open("Passion.txt","a")

(ii) Which of the following options can be used as statement 3

(a) f=open("Passion.txt","r")
(b) f=open("Passion.txt","w")
(c) f=open("Passion.txt","a")
(d) f=open("Passion.txt","ra")

(iii) Choose the correct option to be used as statement 2

(a) F.close()
(b) f.close()
(c) F.close("passion.txt")
(d) No statement is required

44. Which of the following statements is/are true?

(a) When you open a file for reading, if the file does not exist, an error occurs.
(b) When you open a file for writing, if the file does not exist, a new file is created.
(c) When you open a file for writing, if the file exists, the existing file is overwritten with the new file.
(d) All of the above.

45. Which of the following statements is not True

(a) File method close() closes the opened file.
(b) Python automatically closes a file when the reference object of a file is reassigned to another file.
(c) close() method returns a value which ensures the termination of the file stream
(d) Calling close( ) method more than once is allowed.

46. What is the expected output of the given code?

```
f = None
for i in range (5):
with open("data.txt", "w") as f:
if i > 2:
break
print(f.closed)
```

(a) True (b) False
(c) None (d) Error

47. Which of the following statements is true with respect to the files in Python?

(a) File can be opened with a file handle using open method without any arguments
(b) File can be opened with a file handle using open method with one argument to read the file
(c) File can be opened with a file handle using open method with one argument to write the file
(d) File can be opened with a file handle using open method with one argument to append the file

48. To open a file only for reading which of the following statement cannot be used :

(a) f = open("PYTHON.txt")
(b) f = open("PYTHON.txt", "rt")
(c) f = open("PYTHON.txt", "r")
(d) f = open("PYTHON.txt","r+")

ANSWER KEYS

1. b) infile = open("c:\\temp.txt", "r")
2. d) outfile = open("c:\\temp.txt", "w")
3. a) outfile = open("c:\temp.txt", "a")
4. a) read(n)
5. b) read()
6. c) readline()
7. c) readline()
8. b) a list of lines
9. b) 2
10. a) Text file
11. c) End of line
12. a) Garbage values
13. a) read, append
14. a) readline()
15. a) close()
16. b) file pointer
17. c) ab+
18. a) dump()
19. b) She can use Python Dictionaries with Binary file concept.
20. d) Opening will be succeeded, if the file exists replaces the contents, do not exist, creates a new file.
21. c) names = open("names.txt", "r")
    for line in names:
    print(line)
22. c) .dat
23. b) animals/feline
24. c) ..ursine/bears.gif
25. c) /animals/ursine/bears.gif
26. b) lions.gif
27. c) readline()
28. c) readlines()
29. b) Read
30. a) Read the entire content of the file
31. c) Python automatically closes a file if the reference object of the file is allocated to another
32. b) If the file is opened for writing and is not closed, data is not written into the target file.
33. c) Write and Read a text file
34. a) the beginning of the file.
35. b) The end of the file.
36. d) Both A and B are right.
37. a) overwrite the beginning content
38. a) r
39. (i) a) r
    (ii) c) f.readlines( )
    (iii) c) f.close()
40. c) r
41. (i) b) f=open("Book.txt","r")
    (ii) a) f.close()
42. c) In w+ mode, the file is created if it does not exist and erases the content if the file already exists; r+ raises an error if the file does not exist
43. (i) c) f=open("Passion.txt","w")
    (ii) a) f=open("Passion.txt","r")
    (iii) b) f.close()
44. d) All of the above.
45. c) close() method returns a value which ensures the termination of the file stream
46. a) True
47. b) File can be opened with a file handle using open method with one argument to read the file
48. d) f = open("PYTHON.txt","r+")

5. BINARY FILE (Python Files)

1. Out of the followings which mode is used for both reading and writing in binary format in file?

(a) wb (b) wb+

(c) w (d) w+

2. Which of the following is not true about binary files?

(a) Binary files are store in terms of bytes

(b) When you open binary file in text editor will show garbage values

(c) Binary files represent ASCII value of characters

(d) All of the above

3. What is the difference between wb and wb+ mode?

(a) wb mode is used to open binary file in write mode and wb+ mode open binary file both for read and write operation.

(b) In wb mode file open in write mode and wb+ in read mode

(c) File pointer is at beginning of file in wb mode and in wb+ at the end of file

(d) No difference

4. The pickle module in Python is used for:

(a) Serializing any Python object structure

(b) De-serializing Python object structure

(c) Both a and b

(d) None of these

5. Which method is used to convert Python objects for writing data in binary file?

(a) write() (b) load()

(c) store() (d) dump()

6. seek() function is used for _____.

(a) positions the file object at the specified location.

(b) It returns the current position of the file object

(c) It writes the data in binary file

(d) None of these

7. Which is not the valid mode for binary files?

(a) r (b) rb

(c) wb (d) wb+

8. Which of the following function is used to read the data in binary file?

(a) read() (b) open()

(c) dump() (d) load()

9. Suresh wants to open the binary file student.dat in read mode. He writes the following statement but he does not know the mode. Help him to find the same.

F=open('student.dat', ____)

(a) r (b) rb

(c) w (d) wb

10. This method returns an integer that specifies the current position of the file object.

(a) seek() (b) load()

(c) position() (d) tell()

11. What is pickling?

(a) It is the process to read binary file

(b) It is the process to position the file pointer

(c) It is a process by which a Python object is converted to a byte stream

(d) None of these

Case Study Based Question-1

Mr. Zack Sullivan loves programming. He joined an institute for learning. He is learning python. He learned all the python concepts like strings, lists, tuple , dictionaries etc. but he wants to learn file handling in python. He is trying to learn binary file handling. His teacher gave him partial code to write and read data from employee.dat having structure empno, name, salary. Help Zack to complete the code:

```
_____ # statement 1
def addrecords():
fw= _____ #statement 2
dict={}
ch='y'
while ch=='y':
eno=int(input("enter employee number"))
nm= input("enter employee name")
sal=int(input("enter employee salary"))
dict={'empno':eno,'name':nm,'salary':sal}
_____ # statement 3
ch=input("add more record")
fw.close()
# function to diplay records
def display():
dict={}
fr= _____ # statement 4
dict=_____ # statement 5
fr.close()
print("data :",dict)
```

Answer questions 12-16 based on above case study

12. Help Zack to import the module to perform binary file operation in statement 1.

(a) csv (b) random

(c) pickle (d) file

13. Which statement is used from the following for statement 2 to open the binary file in write mode?

(a) open("employee.dat",'w')

(b) open("employee.dat",'wb')

(c) open("employee.dat",'w+')

(d) open("employee.dat",'r')

14. Which statement is used from the following for statement 3 to write dictionary data created in above code, namely dict, is written in binary file employee.dat file?

(a) pickle.dump(dict,fw)

(b) pickle.write(dict,fw)

(c) pickle.save(dict,fw)

(d) pickle.store(dict)

15. Which statement is used from the following for statement 4 to open the binary file in read mode?

(a) open("employee.dat",'r')

(b) open("employee.dat",'r+')

(c) open("employee.dat",'a')

(d) open("employee.dat",'rb')

16. Complete statement 5 to read data in dictionary namely dict from the opened binary file?

(a) dict=pk.read(fr)

(b) dict=pickle.load(fr)

(c) pickle.load(dict,fr)

(d) none of these

Case Study Based Question-2

Now Mr. Zack has given the following code to modify the records of employees from employee.dat used in above code. He has to increase Rs. 2000 in the salary of those who are getting less than 15000. Mr. Zack has to find the records and change the salary in place. His teacher gave him partial code. Help him to complete the code.

```
import pickle as pk
found=False
emp={}
fin = _____ #1 statement :
open file both in read write mode
# read from file
try:
while true:
pos= _____ #2 store file pointer position
before reading record
emp=____ #3 to read the record in emp dictionary
if emp['salary']<15000:
emp['salary']+=10000
____ #4 place file pointer at exact location of record
pickle.dump(emp,fin)
found=True
except EOFError:
if found==False:
print("record not found")
else:
print("successfully updated")
fin.close()
```

17. In #1 statement open the file in read and write mode. Which statement is used out of the followings?

(a) open("employee.dat",'rb+')
(b) open("employee.dat",'r+')
(c) open("employee.dat",'a')
(d) open("employee.dat",'rb')

18. Choose the appropriate statement to complete #2 statement to store file pointer position before reading record.

(a) pk.seek(pos) (b) fin.tell()
(c) pk.position() (d) pk.tell()

19. Choose the appropriate statement to complete #3 statement to read record in emp dictionary.

(a) pk.read(fin) (b) pickle.load(fin,emp)
(c) pk.dump(emp) (d) pk.load(fin)

20. Choose the appropriate statement to complete #4 statement to place file pointer at exact location of record

(a) fin.seek(pos) (b) pos=fin.seek()
(c) fin.position() (d) none of the above

21. If a file is opened for reading, which of the following statements is not true?

(a) The file must exist on the disk on the specified path
(b) If the file exists at the specified path, the file is successfully opened.
(c) The file even if at a different location on disk other than the specified path, will get opened
(d) Python gives error if the file does not exist at the specified path

22. To read 24 characters from a file object infi, we use

(a) Infi.read() (b) infi.read(24)
(c) Infi.readline() (d) infi.readlines

23. The readlines() method returns_____

(a) a str
(b) a list of integers
(c) a lit of single characters
(d) a list of lines

24. Which of the following is not a valid mode to open a file.

(a) ab (b) rw
(c) wb (d) w+

25. Which of the following functions do you use to write data in the binary format?

(a) Write() (b) output()

(c) dump() (d) send()

26. Which of the following command is used to open a file "c:\path.txt" in read mode only?

(a) Fin=open("c\path.txt","r")

(b) fin=open("c\\path.txt","r")

(c) Fin=open(file="c:\path.txt","r+")

(d) fin=open(file="c\\path.txt","r+")

27. Which of the following is not a correct statement for binary files?

(a) Easy for carrying data into buffer

(b) Much faster than other file systems

(c) Characters translation is not required

(d) Every line ends with new line character "\n?

28. Which of the following commands can be used to read the entire contents of a file as a string using the file object <tmpfile>?

(a) tmpfile.read(n)

(b) tmpfile.read()

(c) tmpfile.readline()

(d) tmpfile.readlines()

29. Which of the following command is used to open a file "c:\temp.txt" for writing in binary format only?

(a) outfile = open("c:\temp.txt", "w")

(b) outfile = open("c:\\temp.txt", "wb")

(c) outfile = open("c:\temp.txt", "w+")

(d) outfile = open("c:\\temp.txt", "wb+")

30. Trying to open a binary file using a text editor will show:

(a) Garbage values (b) ASCII values

(c) Binary character (d) Unicodes

Case Study Questions

31. Ms. Suman is working on a binary file and wants to write data from a list to a binary file. Consider list object as l1, binary file suman_list.dat, and file object as f.

(i) Which of the following can be the correct statement for her?

(a) f = open("suman_list","wb"); pickle.dump(l1,f)

(b) f = open("suman_list","rb"); l1 = pickle.dump(f)

(c) f = open("suman_list","wb"); pickle.load(l1,f)

(d) f = open("suman_list","rb"); l1= pickle.load(f)

(ii) Which option will be correct for reading file for suman?

(a) f = open("suman_list?,?rb?)

(b) f = open("suman_list?,?r?)

(c) f = open("suman_list?,?r+?)

(d) f = open("suman_list?,?ab?)

(iii) In which of the file mode existing data will be intact in binary file?

(a) a (b) ab

(c) w (d) wb

(iv) Which one of the following is correct statement?

(a) import - pickle

(b) pickle import

(c) import pickle

(d) All of the above

(v) What are the binary files used for?

(a) It is used to store data in the form of bytes

(b) To store data

(c) To look folder good

(d) None of these

32. Ms. Sejal is working on the sports.dat file but she is confused about how to complete the code to read the data from the binary file. Suggest a suitable line for her to fulfill .

```
_____ # Statement 1
def sports_read ():
f1 = _____ # Statement 2
_____ # Statement 3
print(data)
f1. close ()
sports.read()
```

(i) Identify the suitable code for blank space in line marked as Statement-1.

(a) pickle import
(b) import pickle
(c) import.pickle
(d) None of these Correct

(ii) Identify the suitable code for blank space in line marked as Statement-2.

(a) f1 =open("sports.dat","wb")
(b) f1 =open("sports.dat","r")
(c) f1 =open("sports.dat","rb")
(d) None of these Correct

(iii) Identify the suitable code for blank space in line marked as Statement-3.

(a) data = pickle.load(f1)
(b) data = pickle.dump(f1)
(c) data = pickle.load(f)
(d) data = pickle.dump(f)

(iv) What is the description of 'r+b' in binary mode?

(a) read and write (b) write and read
(c) read only (d) none of these

(v) Which of the following file modes will not delete the existing data in binary file ?

(a) wb (b) w
(c) a (d) ab

33. Sarita is trying to add data onto a existing binary file and is facing difficulty in completing the code.Help her to fill the gaps in the code.

Incomplete Code:

```
import pickle
print("WORKING WITH BINARY FILES")
_____ # Statement 1
recno=1
print ("Enter Records of Employees")
print()
#taking data from user and dumping in the file as list object
while True:
print("RECORD No.", recno)
eno=int(input("\tEmployee number : "))
ename=input_____ # Statement 2
ebasic=int(input("\tBasic Salary : "))
allow=int(input("\tAllowances : "))
totsal=ebasic+allow
print("\tTOTAL SALARY : ", totsal)
edata=[eno,ename,ebasic,allow,totsal]
pickle.dump(_____) # Statement 3
ans=input("Do you wish to enter more records (y/n)? ")
recno=recno+1
if ans.lower()=='n':
print("Record entry OVER ")
print()
break # retrieving the size of file
print("Size of binary file (in bytes):",
bfile.tell())
_____() # Statement 4
```

(i) To open the file for writing the data in line marked as Statement-1.

(a) bfile=open("empfile.dat","ab")
(b) bfile=open("empfile.dat","a")
(c) bfile=open("empfile.dat","wb")
(d) bfile=open("empfile.dat","w")

(ii) To accept employee name from the user in line marked as Statement-2.

(a) input("\tEmployee Name : ")
(b) input(Employee Name
(c) input("Employee Name)
(d) None of these

(iii) Identify the suitable code for blank space in line marked as Statement-3.

(a) edata,bfile() (b) edata,bfile
(c) data,bfile (d) edata,file

(iv) Identify the suitable code for blank space in line marked as Statement-4.

(a) bfile.close() (b) bfile.close
(c) file.close() (d) none of these

(v) Which of the following is the correct syntax to read from a file using load function ?

(a) pickle.load(<filehandle>)
(b) <object> - load.pickle(<filehandle>)
(c) <object> - pickle.load(<filehandle>)
(d) All of the above

34. A Binary file Stock.dat has a structure [pno,pname,qty,price].A user defined function Createfile() to input data for 3 records and add to stock.dat .There are some blanks help in filling the gaps in the code:

Incomplete Code :

```
Import _____ # Statement 1
def createfile():
File=open("d:\\Stock.dat",?__?) #Statement 2
pno=input("Enter product no:")
pname= input("Enter product name:")
qty= input("Enter product quantity:")
price= input("Enter product price:")
record=[pno,pname,qty,price]
_____ # Statement 3
Print("Record inserted")
File.close()
Createfile()
```

(i) Identify the suitable code for blank space in line marked as Statement-1.

(a) csv (b) CSV
(c) pickle (d) PICKLE

(ii) Identify the suitable code for blank space in line marked as Statement-2.

(a) wb (b) ab
(c) w (d) a

(iii) select correct statement to write data into file for Statement-3.

(a) pickle.dump(record,file)
(b) pickle.dump(record)
(c) pickle.dump(file,record)
(d) pickle.load(record,file)

(iv) Which method is used for object deserialization ?

(a) Pickling (b) Unpickling
(c) All of the above (d) None of the above

(v) What is the last action that must be performed on a file?

(a) save (b) close
(c) end (d) write

35. A binary file "STUDENT.DAT" has structure [admission_number, Name, Percentage]. Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%.

```
_____ pickle # line1
def countrec():
fobj=open("_____","rb") # line2
num = 0
try:
while _____: # line3
rec=pickle.load(fobj)
if rec[2]>75:
```

```
num = num + 1
print(rec[0],rec[1],rec[2])
except:
fobj.close()
return num
```

(i) Identify the suitable code for blank space in line-1.

(a) import (b) IMPORT
(c) Import (d) None of the above

(ii) Identify the suitable code for blank space in line 2.

(a) STUDENT.DAT (b) STUDENTS.DAT
(c) SCHOOL.DAT (d) None of the above

(iii) select correct keyword to fill for line-3.

(a) True (b) False
(c) true (d) TRUE

36. Ms.Anita is unable understand what can be the output of the following code.Help her in getting the output.

```
Import pickle
L=[20,40,50]
f=open("list.dat",?wb?)
Pickle.dump(l,f)
Print("Data added successfully")
f.close()
f=open("list.dat",?rb?)
data=pickle.load(f)
f.close()
print(data)
```

(a) Data added successfully
[20,40,50]
(b) [20,30,50]
Data added successfully
(c) [20,30,50]
(d) No output

37. A binary file "salary.DAT" has structure [teacherid, teacher name, salary]. Complete the code in the blanks so that it would read contents of the file "salary.DAT" and display the details of those teachers whose salary is above 20000.

```
import pickle
_____ # line1
try:
print("tr id\t tr Name\t tr Sal")
while True:
rec=_____.load(fobj) #line2
if rec[2]>_____: #line3
print(rec[0],"\t\t",rec[1],"\t\t",rec[2])
except:
_____.close() #line 4
```

(i) To open the file for writing the data in line marked as line-1.

(a) fobj=open("salary.dat","rb")
(b) fobj=open("salary.dat","r")
(c) fobj=open("salary.dat","r+")
(d) fobj=open("data.dat","rb")

(ii) The module used in line2

(a) PICKLE (b) pickling
(c) pickle (d) None of these

(iii) Identify the salary to be checked in the code marked as line-3.

(a) 50000 (b) 20000
(c) 24000 (d) 10000

(iv) Which of the following File Modes creates a new file, if the file does not exist? (choose one/more)

(a) "r" (b) "bw"
(c) "w" (d) "a"

(v) What is true about Binary files

(a) They are not human readable
(b) the file extension is .dat
(c) the file stores same format as held in memory.
(d) All of the above

38. Mr. Rohan wants to modify salary of employee having a structure[eid,ename ,salary],but unable to fill the gaps in the code. Help him to complete the code

```
Import pickle
f = open('d:/student.dat','rb')
reclst = []
r=_____ # line 1
code to ask employee id
m=int(input("enter correct salary"))
while True:
try:
rec = pickle.load(f)
reclst.append(rec) #line2 statement to add items in list at the end one by one
except EOFError:
break
f.close()
for i in range (len(reclst)):
if reclst[i]['eid']==r:
reclst[i]['salary'] = m
f = open('d:/student.dat','___') #line 3 mode to be used to copy the data
for x in reclst:
pickle.dump(x,f)
f.close()
```

(i) Identify the code in line1.

(a) int(input("Enter employee id"))
(b) int("Enter employee id")
(c) int(INPUT("Enter employee id"))
(d) None of the above

(ii) The module used in line2

(a) PICKLE (b) pickling
(c) pickle (d) None of these

(iii) Fill in the code marked as line-3.

(a) w (b) wb
(c) r (d) rb

39. A binary file sports.dat contains information in the following structure:(Event, Participant)

A code is shown below which is incomplete that would read contents from the sports.dat and creates a file named Athletic.dat copying only those records from sports.dat where the event name is "Athletics".

```
import pickle
ath ( f1 , f2 ) :
l = pickle.load ( f1)
for t in l :
if ( t [ 0 ] == "_____" ) : #line 1
pickle._____ ( t , f2 ) #line 2
f1 = open ( " sports.dat " , " rb " )
f2 = open ( " athletics.dat " , " wb " )
f.close()
f1.close()
```

(i) Identify the code in line1.

(a) Athletics (b) Sports
(c) Games (d) None of the above

(ii) The function to copy the data into other binary file2

(a) DUMP (b) close
(c) dump (d) None of these

(iii) Information stored on a storage device with a specific name is called as _____.

(a) array (b) dictionary
(c) file (d) tuple

(iv) Which of the follwong is not a valid mode to open a file?

(a) ab (b) rw
(c) r+ (d) w+

40. A function searchprod(pc) in python is created to display the record of a particular product from a file product.dat whose code is passed as an argument. Structure of product contains the following elements [product code , product price].There is some problem in completing the code,help to finish the code:

```
f = _____('d:/product.dat','rb') #line1
flag = False
pc=input("Enter product code to be searched")
while True:
try:
rec = pickle.load(f)
if rec['pcode'] ==_____: #line2
print('Product code:',rec['pcode'])
print('Price:',rec['price'])
flag = True
except EOFError:
break
if flag == False:
print('No Records found')
f.close()
```

(i) Identify the method in line1.

(a) close (b) open

(c) OPEN (d) None of the above

(ii) The variable used to accept product code entered by the user for the line2

(a) pcode (b) pc

(c) code (d) None of these

ANSWER KEYS

1. b) wb+
2. c) Binary files represent ASCII value of characters
3. a) wb mode is used to open binary file in write mode and wb+ mode open binary file both for read and write operation.
4. c) Both a and b
5. d) dump()
6. a) positions the file object at the specified location.
7. a) r
8. d) load()
9. b) rb
10. d) tell()
11. c) It is a process by which a Python object is converted to a byte stream
12. c) pickle
13. b) open("employee.dat",'wb')
14. a) pickle.dump(dict,fw)
15. d) open("employee.dat",'rb')
16. b) dict=pickle.load(fr)
17. a) open("employee.dat",'rb+')
18. b) fin.tell()
19. d) pk.load(fin)
20. b) pos=fin.seek()
21. c) The file even if at a different location on disk other than the specified path, will get opened

22. b) infi.read(24)

23. d) a list of lines

24. b) rw

25. c) dump()

26. b) fin=open("c\\path.txt","r")

27. d) Every line ends with new line character "\n?

28. b) tmpfile.read()

29. b) outfile = open("c:\\temp.txt", "wb")

30. a) Garbage values

31. (i) a) f=open("suman_list","wb");
pickle.dump(l1,f)
(ii) a) f = open("suman_list?,?rb?)
(iii) b) ab
(iv) c) import pickle
(v) a) It is used to store data in the form of bytes

32. (i) b) import pickle
(ii) c) f1 =open("sports.dat","rb")
(iii) a) data = pickle.load(f1)
(iv) a) read and write
(v) d) ab

33. (i) a) bfile=open("empfile.dat","ab")
(ii) a) input("\tEmployee Name : ")
(iii) b) edata,bfile
(iv) a) bfile.close()
(v) c) <object> - pickle.load(<filehandle>)

34. (i) c) pickle
(ii) b) ab
(iii) a) pickle.dump(record,file)
(iv) b) Unpickling
(v) b) close

35. (i) a) import
(ii) a) STUDENT.DAT
(iii) a) True

36. a) Data added successfully
[20,40,50]

37. (i) a) fobj=open("salary.dat","rb")
(ii) c) pickle
(iii) b) 20000
(iv) c) "w"
(v) d) All of the above

38. (i) a) int(input("Enter employee id"))
(ii) c) pickle
(iii) b) wb

39. (i) a) Athletics
(ii) c) dump
(iii) c) file
(iv) b) rw

40. (i) b) open
(ii) b) pc

6. CSV FILE (Python Files)

(a) Multiple Choice Questions

1. To open a file c:\scores.csv for reading, we use _____ command.

(a) infile = open("c:\scores.csv", "r")

(b) infile = open("c:\\scores.csv", "r")

(c) infile = open(file = "c:\scores.csv", "r")

(d) infile = open(file = "c:\\scores.csv", "r")

2. State True/False :

(i) The csv files are Binary Files:

(a) True (b) False

3. Which of the following statement(s) are true for csv files?

(a) When you open a file for reading, if the file does not exist, an error occurs

(b) When you open a file for writing, if the file does not exist, a new file is created

(c) When you open a file for writing, if the file exists, the existing file is overwritten with the new file

(d) All the above

4. To read the entire content of the CSV file as a nested list from a file object infile, we use _____ command.

(a) infile.read() (b) infile.reader()

(c) csv.reader(infile) (d) infile.readlines()

5. State True/False :

The separator character of csv files is called delimiter.

(a) True (b) False

6. The full form of CSV is

(a) Comma Separated Values

(b) Comma Separated Value

(c) Comma Separated Variables

(d) Comma Separate Values

7. State True/False:

The CSV files only take comma as delimiter.

(a) True (b) False

8. EOL character used in windows operating system in CSV file is

(a) \r (b) \n

(c) \r\n (d) \0

9. The CSV files are popular because they are

(a) capable of storing large amount of data

(b) easier to create

(c) preferred export and import format for databases and spread sheets

(d) All the above

10. The default delimiter character of CSV file is____.

(a) : (colon) (b) \t (tab)

(c) , (comma) (d) ; (semi-colon)

11. State True/False:

A CSV file is open in the same way as text file.

(a) True (b) False

12. Which of the following is not a valid mode to open CSV file?

(a) a (b) w

(c) ab (d) r

13. The file mode to open a CSV file for appending as well as reading is _____.

(a) a+ (b) w+

(c) r+ (d) All the above.

14. The file mode to open a CSV file for reading as well as writing is _____.

(a) a+ (b) w+

(c) r+ (d) All the above.

15. **The CSV files are ____ files.**
(a) Text (b) Binary
(c) Data (d) Python

16. **The character that separates values in csv files is called the ……**
(a) delimit (b) delimiter
(c) delimited (d) delimits

17. **The default delimiter of csv file is ……**
(a) comma (b) colon
(c) semicolon (d) hyphen

18. **The file mode to open a csv file for reading as well writing is ……**
(a) r (b) rw
(c) r+ (d) rb

19. **The file mode to open a csv file for appending as well reading is ……..**
(a) w (b) w+
(c) a (d) a+

20. **To specify a different delimiter while writing into csv file, ……. argument is used with csv.writer().**
(a) delimit (b) delimiter
(c) delimited (d) delimits

21. **To cancel the EOL translation in csv file while writing the data …… argument is used with open().**
(a) newline (b) next
(c) open (d) EOL

22. **To add data to an existing csv file, the mode of the file should be ……..**
(a) w (b) w+
(c) a (d) a+

23. **CSV stands for …….**
(a) Cursor Separated Variables
(b) Comma Separated Values
(c) Cursor Separated Values
(d) Cursor Separated Version

24. **Which module is used for working with CSV files in Python?**
(a) random (b) statistics
(c) csv (d) math

25. **Every record in a CSV file is stored in reader object in the form of a list using which method?**
(a) writer() (b) append()
(c) reader() (d) list()

Case Study Questions

26. Deepesh works as a programmer with Delta Technologies. He has been assigned the job of generating the salary of all employees using the file "employee.csv". He has written a program to read the CSV file "employee.csv" which will contain details of all the employees. He has written the following code. As a programmer, help him to successfully execute the given task.

```
import_____ # Line 1
def readCsvEmp( ): # to read data from the CSV file
with _____('employees.csv', newline='') as f: # Line 2
reader = csv._____ (f) # Line 3
data_list = _____(reader) # Line 4
_____ (data_list) # Line 5
```

(i) Name the module he should import in Line 1.
(a) import csv (b) csv import
(c) import (d) export csv

(ii) Write the method that he should use to open the file to read data from it.
(a) read (b) open
(c) close (d) append

(iii) Fill in the blank in Line 3 to read the data from a csv file.

(a) read (b) readline
(c) reader (d) writer

(iv) Fill in the blank in Line 4 with the method to convert the data read from the file into list.

(a) list (b) sets
(c) dictionary (d) tuple

27. Observe the following code and fill the blank in statement1

```
import csv
with _____ as f: #statement1
r = csv._____(f) #statement2
for row in _____: #statement3
print(_____) #statement4
```

(a) open("data.csv")
(b) f=open("data.csv")
(c) Both A & B are Correct
(d) Both A & B are incorrect

28. Observe the following code and fill the blank in statement2

```
import csv
with _____ as f: #statement1
r = csv._____(f) #statement2
for row in _____: #statement3
print(_____) #statement4
```

(a) load (b) read()
(c) reader() (d) readlines()

29. Observe the following code and fill the blank in statement3

```
import csv
with _____ as f: #statement1
r = csv._____(f) #statement2
for row in _____: #statement3
print(_____) #statement4
```

(a) F (b) r
(c) r,f (d) None of the above

30. Observe the following code and fill the blank in statement4

```
import csv
with _____ as f: #statement1
r = csv._____(f) #statement2
for row in _____: #statement3
print(_____) #statement4
```

(a) r (b) row
(c) f (d) csv

31. Legend sports wanted to store the number of prizes for each sport as a SPORTS.CSV file. As a programmer help them to complete the task successfully.

```
import _____ #Line 1
fh=_____ # Line 2
swriter = _____(fh) #Line 3
ans=?y?
i=1
while ans==?y?:
print("Record",i)
sport=input("Sport name")
prizes=int(input("Enter prizes won"))
_____ # Line 4
i=i+1
ans=input("Want to enter records")
fh._____#Line 5
```

(i) Name the module to be imported in Line 1.

(a) .tsv (b) .csv
(c) .py (d) .bin

(ii) Fill in line 2 to open the CSV file.

(a) fh = open("sports.csv","w")
(b) fh=read("sports.csv","w")
(c) fh = file("sports.csv","w")
(d) fh = append("sports.csv","w")

(iii) Write the correct statement to write the data into file in line 3.

(a) writerows( )
(b) writerow( )
(c) writer( )
(d) swriter = csv.csvwriter(fh)

(iv) Write the statement to write the records given as input from user in line 4.

(a) swriter([sport,prizes])
(b) swriter.writrrow([sport,prizes])
(c) swriter_writrrow([sport,prizes])
(d) swriterwritrrow([sport,prizes])

32. Krishna of class 12 is writing a program to read the details of Sports performance and store in the csv file "Sports.csv" delimited with a tab character. As a programmer, help him to achieve the task.

```
import _____ # Line 1
f = open("Sports.csv","a")
wobj = csv.___ (f, delimiter = "\t?) # Line 2
wobj.writerow( ["Sport?, "Competitions?, "Prizes Won?] )
ans = "y?
i = 1
while ans == "y?:
print("Record :", i)
sport = input("Sport Name :")
comp = int(input("No. of competitions participated :"))
prize = int(input("Prizes won:"))
record = _____ # Line 3
wobj._____ (rec) # Line 4
i += 1
ans = input("Do u want to continue ? (y/n) :")
f._____ # Line 5
```

(i) Name the module he should import in Line 1

(a) .tcs (b) .tmp
(c) .bin (d) .csv

(ii) To create an object to enable to write in the csv file in Line 2

(a) open (b) writer
(c) file (d) read

(iii) To create a sequence of user data in Line 3

(a) [prize,comp,sport]
(b) [comp,prize,sport]
(c) [sport, comp, prize]
(d) none of the above

(iv) To write a record onto the writer object in Line 4

(a) write (b) writerow
(c) writeline (d) writelines

33. Kumar is writing a program to create a CSV file "student.csv" which will contain rollno, name and age of some students. He has written the following code. As a programmer, help him to successfully execute the given task

```
import _____ # Line 1
f=open('student.csv','w',newline="")
p=csv._____(f) # Line 2
ch='y'
while ch=='y':
l=[]
rollno=int(input('enter rollno'))
name=input('enter name')
age=int(input('enter age'))
l.append(rollno)
l.append(name)
l.append(age)
p._____(l) # Line 3
```

```
ch = input ('want to continue y/n?')
if ch=='y':
continue
else:
break
f._____()
f=open('student.csv','r+')
c=list(csv.reader(f))
for i in c:
k=i[2]
if int(k)>15:
print(i)
f.close()
```

(i) Name the module he should import in Line 1

(a) import csv (b) csv import

(c) import (d) export csv

(ii) which function is used in Line 2 to create a writer object

(a) p=tsv.writer(f) (b) p=psv.writer(f)

(c) p=csv.writer(f) (d) p=dsv.writer(f)

(iii) The method which is to be used in line 3 to writes a row of data into the specified file

(a) p.writerow(l) (b) p.writerows(l)

(c) p.writer() (d) p.writerow(l)

(iv) Fill in the blank in Line 4 to close the file.

(a) f.close() (b) f.open()

(c) close.f() (d) f.read()

34. Puneeta is storing the data of her gift store in a csv file named gift.csv which will store Gift_code and Gift_name of items of her gift store. She has written the following code. As a programmer help her to successfully execute her program in python:

```
import _____ # Line 1
def writeFile(Gift_code,Gift_name):
F=open("gift.csv",?___?) #Line 2
FW=csv._____(F) #Line 3
FW.writerow([Gift_code,Gift_name)
F.close()
#CSV file for reading
def readFile():
with _____("gift.csv?,?r?) as newF #Line
4
FR=csv.reader(newF)
for row in FR:
if row[0]==101:
print(row)
newF.close()
writeFile(101,"Photoframe")
writeFile(102,"Soft Toys")
writeFile(103,"Flower Pot")
readFile() #Line 5
```

(i) Name the module she should import in line 1.

(a) .tmp (b) .bin

(c) .tsc (d) .csv

(ii) In which mode Puneeta should open the file to add data in it?

(a) "a" (b) "ab"

(c) "r" (d) "w"

(iii) Fill in the blanks in Line 3 to write data to csv file gift.csv

(a) close() (b) open()

(c) writer() (d) append()

(iv) Fill in the blank in Line 4 to open the csv file from the disk

(a) close (b) open

(c) write (d) read

35. What is the output of the following program?

```
import csv
d=csv.reader
(open('c:\PYPRG\ ch13\city.csv'))
next(d)
for row in d:
print(row)
```

if the file called "city.csv" contain the following details chennai,mylapore mumbai,andheri

(a) chennai, mylapore

(b) Mumbai, andheri

(c) chennai, mumba

(d) chennai, mylapore mumbai, andheri

ANSWER KEYS

1. (b) infile = open("c:\\scores.csv", "r")
2. (b) False
3. (d) All the above
4. (c) csv.reader(infile)
5. (a) True
6. (a) Comma Separated Values
7. (b) False
8. (c) \r\n
9. (d) All the above
10. (c) , (comma)
11. (a) True
12. (c) ab
13. (a) a+
14. (c) r+
15. (a) Text
16. (b) delimiter
17. (a) comma
18. (c) r+
19. (d) a+
20. (b) delimiter
21. (a) newline
22. (c) a
23. (b) Comma Separated Values
24. (c) csv
25. (c) reader()
26. (i) (a) import csv
    (ii) (b) open
    (iii) (c) reader
    (iv) (a) list
27. (a) open("data.csv")
28. (c) reader()
29. (b) r
30. b) row
31. (i) (b) .csv
    (ii) (a) fh = open("sports.csv","w")
    (iii) (d) swriter = csv.csvwriter(fh)
    (iv) (b) swriter.writrrow([sport,prizes])
32. (i) (d) .csv
    (ii) (b) writer
    (iii) (c) [sport, comp, prize]
    (iv) (b) writerow
33. (i) (a) import csv
    (ii) (c) p=csv.writer(f)
    (iii) (d) p.writerow(l)
    (iv) (a) f.close()
34. (i) (d) .csv
    (ii) (a) "a"
    (iii) (c) writer()
    (iv) (b) open
35. (b) mumbai,andheri

(b) Fill in the blanks

1. A collection of bytes stored in computer's secondary memory is known as _____.
2. _____ is a process of storing data into files and allows to performs various tasks such as read, write, append, search and modify in files.
3. The transfer of data from program to memory (RAM) to permanent storage device (hard disk) and vice versa are known as _____.
4. A _____ is a file that stores data in a specific format on secondary storage devices.
5. In _____ files each line terminates with EOL or '\n' or carriage return, or '\r\n'.
6. To open file data.txt for reading, open function will be written as f = _____.
7. To open file data.txt for writing, open function will be written as f = _____.
8. In f=open("data.txt","w"), f refers to _____.
9. To close file in a program _____ function is used.
10. A __ function reads first 15 characters of file.
11. A _____ function reads most n bytes and returns the read bytes in the form of a string.
12. A _____ function reads all lines from the file.
13. A _____ function requires a string (File_Path) as parameter to write in the file.
14. A _____ function requires a sequence of lines, lists, tuples etc. to write data into file.
15. To add data into an existing file _____ mode is used.
16. A _____ function is used to write contents of buffer onto storage.
17. A text file stores data in _____ or _____ form.
18. A _____ is plain text file which contains list of data in tabular form.
19. You can create a file using _____ function in python.
20. A _____ symbol is used to perform reading as well as writing on files in python.

ANSWER KEYS

1. File
2. File Handling
3. I/O Operations
4. Data file
5. Text File
6. open("data.txt","r")
7. open("data.txt","w")
8. File handle or File Object
9. close
10. read(15)
11. readline()
12. readlines()
13. write()
14. writelines()
15. append
16. flush()
17. ASCII, UNICODE
18. CSV
19. open()
20. +

(c) Short answer questions

1. What do you mean by file? What do you mean by file handling?

Ans.
- The file refers to the collection of bytes stored in computer storage.
- Data can be stored in various forms in a file.
- These files saved in a specific format with a specific extension.
- Every file needs to have a specific program to read them.
- Fille handling refers to the process of handling data using software for IO operations.

2. Explain open() function with its syntax in detail.

Ans.
- The open function has the following syntax:
- Open a text file: Syntax:<file object> = open(file_name,access_mode)
  - file object : It is just like a variable or object
  - open(): It is a function with two parameters.
  - file_name: It accepts a file name with .txt extension.
  - access_mode: It specifies the mode to access the file. The default mode is reading mode.
  - These modes are
  - r: to read a file
  - w: to write
  - a: append contents

3. Does python create itself if the file doesn't exist in the memory? Illustrate your answer with an example.

Ans.
- Python will create a file automatically when the open function is used with write mode.
- Example:
  - f=open("data.txt","w")
  - f.write("Hello\nHow are you?")
  - f.close()

4. Write a statement to create a data.txt file with the following text.

Ans.
- Python file handling is very interesting and useful.
- This is a text file created through python.
  - f=open("data.txt","w")
  - f.write("Python file handling is very interesting and useful.")
  - f.write("This is a text file created through python.")
  - f.close()

  List out the basic file modes available in python.
- r - to read from the file
- w - to write into the file
- a - append data into the file already exists
- r+/w+ - to perform read and write together
- rb/wb/ab - read, write and append data into binary files

(d) Long answer Type Questions

1. Compare text files, binary files and csv files and write pros and cons of each of them.

Text Files	Binary Files	CSV Files
It is capable to handle textual data.	It is capable to handle large file.	It is very common format and platform independent.
It consists of series of lines of a set of letters, numbers or symbols (String)	It consists of data with a specific pattern without any delimiter.	It consists of plain text with a list of data with a delimiter.
Any text editors like notepad can be used to read them.	No specific programs can be used to read them, python provides functions to read data.	It can be read using text editors like notepads and spreadsheet software.
Every line ends with EOL.	There is no specific EOL character.	It terminates a line automatically when the delimiter is not used after data.

2. Write a python program to create and read the city.txt file in one go and print the contents on the output screen.

Ans.
```
# Creating file with open() function
f=open("city.txt","w")
f.write("My city is very clean city.")
f.close()
# Reading contents from city.txt file
f=open("city.txt","r")
dt = f.read()
print(dt)
f.close()
```

3. Consider following lines for the file friends.txt and predict the output with explanation:

Friends are crazy, Friends are naughty !

Friends are honest, Friends are best !

Friends are like keygen, friends are like license key !

We are nothing without friends, Life is not possible without friends !

```
f = open("friends.txt")
l = f.readline()
l2 = f.readline(18)
ch3=f.read(10)
print(l2)
print(ch3)
print(f.readline())
f.close()
```

Output:

Friends are honest

, Friends

are best !

Explanation:

In line no. 2, f.readline() function reads first line and stores the output string in l but not printed in the code, then it moves the pointer to next line in the file. In next statement we have f.readline(18) which reads next 18 characters and place the cursor at the next position i.e. comma (,) , in next statement f.read(10) reads next 10 characters and stores in ch3 variable and then cursor moves to the next position and at last f.readline() function print() the entire line.

4. Write a function count_lines() to count and display the total number of lines from the file. Consider above file - friends.txt.

Ans.
```
def count_lines():
    f = open("friends.txt")
    cnt =0
    for lines in f:
        cnt+=1
print("no. of lines:",cnt)
f.close()
```

5. Write a function display_oddLines() to display odd number lines from the text file. Consider above file - friends.txt.

Ans.
```
def display_oddLines():
    f = open("friends.txt")
    cnt =0
    for lines in f:
    cnt+=1
    if cnt%2!=0:
    print(lines)
    f.close()
```

6. Write a function cust_data() to ask user to enter their names and age to store data in customer.txt file.

Ans.
```
def cust_data():
    name = input("Enter customer name:")
    age=int(input("Enter customer age:"))
    data = str([name,age])
    f = open("customer.txt","w")
    f.write(data)
    f.close()
```

(e) Important long questions: (Text files)

1. Write a function in Python that counts the number of "Me" or "My" (in smaller case also) words present in a text file "STORY.TXT". If the "STORY.TXT" contents are as follows:

   My first book was Me and My Family. It gave me chance to be Known to the world.

   The output of the function should be: Count of Me/My in file: 4

2. Write a function AMCount() in Python, which should read each character of a text file STORY.TXT, should count and display the occurrence of alphabets 'A' and 'M' (including small cases 'a' and 'm 'too).

   Example: If the file content is as follows:

   Updated information As simplified by official websites.

   The AMCount() function should display the output as: A or a = 4, M or m =2

3. Write a function in python to count the number of lines in a text file 'STORY.TXT' which is starting with an alphabet 'A' .

4. Write a method/function DISPLAYWORDS() in python to read lines from a text file STORY.TXT, and display those words, which are less than 4 characters.

5. Write a function RevText() to read a text file " Story.txt " and Print only word starting with 'I' in reverse order.

   Example: If value in text file is: INDIA IS MY COUNTRY

   Output will be: AIDNI SI MY COUNTRY.

6. Write a function in python to count the number of lowercase alphabets present in a text file "Story.txt"

7. Write a user-defined function named count() that will read the contents of text file named "Story.txt" and count the number of lines which starts with either "I? or "M?. E.g. In the following paragraph, there are 2 lines starting with "I? or "M?:

   "India is the fastest growing economy.

   India is looking for more investments around the globe.

   The whole world is looking at India as a great market.

   Most of the Indians can foresee the heights that India is capable of reaching."

8. Write a function countmy( )in Python to read the text file "Story.txt" and count the number of times "my" or "My" occurs in the file. For example if the file "Story.TXT" contains:

   "This is my website. I have displayed my preferences in the CHOICE section."

   The countmy( ) function should display the output as: "my occurs 2 times".

9. Write a user defined function countwords() in python to count how many words are present in a text file named "story.txt".

   For example, if the file story.txt contains following text:

   Co-education system is necessary for a balanced society. With co-education system, Girls and Boys may develop a feeling of mutual respect towards each other.

   The function should display the following:

   Total number of words present in the text file are: 24

10. Write a user defined function in Python that displays the number of lines starting with 'H' in the file story.txt. Eg: if the file contains:

    Whose woods these are I think I know.

    His house is in the village though;

    He will not see me stopping here

    To watch his woods fill up with snow.

    Then the line count should be 2.

(f) Important long questions: (Binary files)

1. A binary file "STUDENT.DAT" has structure [admission_number, Name, Percentage]. Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%.

2. Write a function in python to search and display details, whose destination is "Cochin" from binary file "Bus.Dat". Assuming the binary file is containing the following elements in the list:
   1. Bus Number
   2. Bus Starting Point
   3. Bus Destination

3. Write a function addrec() in Python to add more new records at the bottom of a binary file "STUDENT.dat", assuming the binary file is containing the following structure :
   [Roll Number, Student Name]

4. Write a function searchprod(pc) in python to display the record of a particular product from a file product.dat whose code is passed as an argument. Structure of product contains the following elements [product code , product price].

5. Write a function routechange(route number) which takes the Route number as parameter and modify the route name(Accept it from the user) of passed route number in a binary file "route.dat".

6. Write a function countrec(sport name) in Python which accepts the name of sport as parameter and count and display the coach name of a sport which is passed as argument from the binary file "sport.dat". Structure of record in a file is given below ------- - [sport name, coach name]

7. A binary file "salary.DAT" has structure [employee id, employee name, salary]. Write a function countrec() in Python that would read contents of the file "salary.DAT" and display the details of those employee whose salary is above 20000.

8. Amit is a monitor of class XII-A and he stored the record of all the students of his class in a file named "class.dat". Structure of record is [roll number, name, percentage]. His computer teacher has assigned the following duty to Amit

   Write a function remcount( ) to count the number of students who need remedial class (student who scored less than 40 percent)

9. A binary file "emp.dat" has structure [employee id, employee name]. Write a function delrec(employee number) in Python that would read contents of the file "emp.dat" and delete the details of those employee whose employee number is passed as argument.

(g) Important long questions: (CSV files)

1. Write a program to read entire data from file data.csv

2. Write a program to search the record from "data.csv" according to the admission number input from the user. Structure of record saved in "data.csv" is Adm_no, Name, Class, Section, Marks

3. Write a program to add/insert records in file "data.csv". Structure of a record is roll number, name and class.

4. Write a program to copy the data from "data.csv" to "temp.csv"

5. Write a program to read all content of "student.csv" and display records of only those students who scored more than 80 marks. Records stored in students is in format : Rollno, Name, Marks

6. Write a program to display all the records from product.csv whose price is more than 300. Format of record stored in product.csv is product id, product name, price.

7. Write a program to calculate the sum of all the marks given in the file "marks.csv. Records in "marks.csv" are as follows :

   Rollno, Name, Marks

   1, Suman, 67

   2, Aman,71

   3, Mini, 68

   4, Amit, 80

8. Write a program to count number of records present in "data.csv" file.

6.1 Dictionary Topics

1. Dictionaries are also known as _____.

(a) mappings

(b) hashes

(c) associative arrays

(d) all of the above

2. Dictionaries are _____ type of python.

(a) Mutable (b) Immutable

(c) simple (d) Complex

3. Mr. Subodh is working with a dictionary in python for his project. He wants to display the key, value pair but confuse out of these statements, choose the correct statement for him:

(a) dict.values()

(b) disct.keys()

(c) dict.keysvalues()

(d) dict.items()

4. The fromkeys() method assigns _____ value to key in dictionary by default.

(a) 0 (b) None

(c) Empty (d) Blank

5. Which one of the following is the correct statement for creating a dictionary for assigning a day number to weekdays using short names?

(a) d ={1:Mon,2:Tue,3:Wed,4:Thur}

(b) d ={1:'Mon',2:'Tue',3:'Wed',4:'Thur'}

(c) d ={1;'Mon',2;'Tue',3;'Wed',4;'Thur'}

(d) d ={1-'Mon',2-'Tue',3-'Wed',4-'Thur'}

6. Om is learning the concept of dictionary in python. He read something about a dictionary related to a set of elements. But he forgot the term which type of set of elements, suggest from the below-given options:

(a) sorted (b) ordered

(c) unordered (d) random

7. Eshika is trying to delete an element from the dictionary, but she is getting an error - "the given key is not found in the dictionary". Which of the following command she has used in the python

(a) del dict[key]

(b) dict.pop(key)

(c) dict.popitem(key)

(d) remove dict[key]

8. Which of the following is the correct statement for checking the presence of a key in the dictionary?

(a) <key> in <dictionary_object>

(b) <key> not in <dictionary_object>

(c) <key> found in <dictionary_object>

(d) <key> exists in <dictionary_object>

9. What will be the output of the following dictionary?

```
d={'South Africa':'Faf Du Plesis','India':
'ViratKohli','Pakistan':'BabarAzam','
Australia':'Steve Smith'}
print(d['ViratKohli'])
```

(a) India (b) India-ViratKohli

(c) ViratKohli (d) KeyError

10. Predict the correct output for the following code:

```
dict={'Manthan':34,'Vishwa':45,'Mayank':50}
print(dict[0])
```

(a) Manthan:34 (b) 34

(c) Manthan (d) Error

11. Marks in the above-created dictionary are changed after rechecking, where Vishwa got 48 marks and Mayank got 49 marks. Choose the correct statement for the same:

(a) dict.change({'Vishva':48,'Mayank':49})

(b) dict.alter({'Vishva':48,'Mayank':49})

(c) dict.update({'Vishva':48,'Mayank':49})

(d) dict.loc({'Vishva':48,'Mayank':49})

12. What happens when the following statement will be written for the same dictionary created in Que. No. 10?

```
dict.update({'Sameer':44})
```

(a) It will raise an error - KeyError

(b) It will add a new key and value at the end of the dictionary

(c) It will replace the last key and value with the given key and value

(d) It will add a new key and value at the beginning of the dictionary

ANSWER KEYS

1. (d) all of the above
2. (a) Mutable
3. (d) dict.items()
4. (b) None
5. (b) d ={1:'Mon',2:'Tue',3:'Wed',4:'Thur'
6. (c) unordered
7. (a) del dict[key]
8. (a) <key> in <dictionary_object>
9. (d) KeyError
10. (d) Error
11. (c) dict.update({'Vishva':48,'Mayank':49})
12. (b) It will add a new key and value at the end of the dictionary

6.2 Data File Handling

1. A _____ is a bunch of bytes stored on some storage devices like hard-disk, pen-drive etc.

(a) Folder (b) File

(c) Package (d) Library

2. The _____ are the files that store data pertaining to a specific application, for later use.

(a) Data File (b) Program File

(c) Source Code (d) Program Code

3. Which of the following format of files can be created programmatically through python program?

(a) Data Files (b) Video Files

(c) Media Files (d) Binary Files

4. Supriya doesn't know about text file extension. Help her to identify the same out of these:

(a) .text (b) .txt

(c) .txf (d) .tfx

5. In python which of the following is default EOL character?

(a) \eol (b) \enter

(c) \n (d) \newline

6. Which of the following statement is correct for binary files?

(a) The file content returned to user in raw form

(b) Every line needs translation

(c) Each line is terminated by EOL

(d) It stores ASCII or Unicode characters

7. Which of the following statement is not correct for text file?

(A) Contains the information as same as its held in memory

(B) No delimiter for a line

(C) Read and write faster than binary files

(D) Common format for general work

(a) A and B only (b) A, B and C

(c) A, C and D (d) All of them

8. A basic approach to share large data among different organizations carried out through

(a) text files

(b) binary files

(c) spreadsheets or database

(d) email attachments

9. The CSV files can be accessed by

(a) text editor and spreadsheet software

(b) only through python programs

(c) Only spreadsheet software

(d) Only through database software

10. Each line in CSV file is known as

(a) tuple (b) data/record

(c) field (d) format

11. Read the statements and choose the correct answer:

Statement A: It is very difficult to organize unstructured data

Statement B: CSV helps into organize huge amount of data in proper and systematic way

(a) Only Statement A is correct

(b) Only Statement B is correct

(c) A and B both are correct

(d) None of them is correct

12. Which of the following are features of CSV files:

(a) easy to read and manage

(b) smaill in size

(c) fast to process data

(d) All of them

13. While opening a file for any operation python looking for

(a) File in the system folder

(b) file in the python installation folder

(c) file in the current folder where the .py file is saved

(d) file in downloads folder

14. The default directory for the performing the most of the functions is known as

(a) active directory

(b) current directory

(c) working directory

(d) open directory

15. **Biswajit wants to working with files and directories through python. Select the python module to help him to do finish his work:**

a) os b) csv

c) pickle d) sys

16. **Manoj wants to get the name of the current directory. Select appropriate statement for the same:**

(a) os.getcd()

(b) os.getcurrentdirectory()

(c) os.getcwd()

(d) os.currentdirectory()

ANSWER KEYS

1. (b) File
2. (a) Data File
3. (d) Binary Files
4. (b) .txt
5. (c) \n
6. (a) The file content returned to user in raw form
7. (d) All of them
8. (c) spreadsheets or database
9. (a) text editor and spreadsheet software
10. (b) data/record
11. (c) A and B both are correct
12. (d) All of them
13. (c) file in the current folder where the .py file is saved
14. (b) current directory
15. (a) os
16. (c) os.getcwd()

6.3 CASE BASED QUESTIONS

1. Rohit, a student of class 12th, is learning CSV File Module in Python. During examination, he has been assigned an incomplete python code (shown below) to create a CSV File 'Student.csv' (content shown below). Help him in completing the code which creates the desired CSV File.

CSV File

1,AKSHAY,XII,A

2,ABHISHEK,XII,A

3,ARVIND,XII,A

4,RAVI,XII,A

5,ASHISH,XII,A

Incomplete Code

```
import                          #Statement-1
fh = open( , , newline='')      #Statement-2
stuwriter = csv.                #Statement-3
data = []
header = ['ROLL_NO', 'NAME', 'CLASS', 'SECTION']
data.append(header)
for i in range(5):
roll_no = int(input("Enter Roll Number : "))
name = input("Enter Name : ")
Class = input("Enter Class : ")
section = input("Enter Section : ")
rec = [ _____ ]                 #Statement-4
data.append(rec)
stuwriter. (data)               #Statement-5
fh.close()
```

i. Identify the suitable code for blank space in line marked as Statement-1.

(a) csv file (b) CSV

(c) csv (d) Csv

ii. Identify the missing code for blank space in line marked as Statement-2?

(a) "School.csv","w" (b) "Student.csv","w"

(c) "Student.csv","r" (d) "School.csv","r"

iii. Choose the function name (with argument) that should be used in the blank space of line marked as Statement-3

(a) reader(fh) (b) reader(MyFile)

(c) writer(fh) (d) writer(MyFile)

iv. Identify the suitable code for blank space in line marked as Statement-4.

(a) 'ROLL_NO', 'NAME', 'CLASS', 'SECTION'

(b) ROLL_NO, NAME, CLASS, SECTION

(c) 'roll_no','name','Class','section'

(d) roll_no,name,Class,sectionc) co.connect()

v. Choose the function name that should be used in the blank space of line marked as Statement-5 to create the desired CSV File?

(a) dump() (b) load()

(c) writerows() (d) writerow()

2. Amritya Seth is a programmer, who has recently been given a task to write a python code to perform the following binary file operations with the help of two user defined functions/modules:

a. **AddStudents()** to create a binary file called **STUDENT.DAT** containing student information - roll number, name and marks (out of 100) of each student.

b. **GetStudents()** to display the name and percentage of those students who have a percentage greater than 75. In case there is no student having percentage > 75 the function displays an appropriate message. The function should also display the average percent.

He has succeeded in writing partial code and has missed out certain statements, so he has left certain queries in comment lines. You as an expert of Python have to provide the missing statements and other related queries based on the following code of Amritya.

Answer any four questions (out of five) from the below mentioned questions.

```
import pickle
def AddStudents():
_____ #1 statement to open the binary file to  write data
while True:
    Rno = int(input("Rno :"))
    Name = input("Name : ")
    Percent = float(input("Percent :"))
    L = [Rno, Name, Percent]
_____ #2 statement to write the list L into the file
Choice = input("enter more (y/n): ")
 if Choice in "nN":
break
F.close()
def GetStudents():
    Total=0
    Countrec=0
    Countabove75=0
    with open("STUDENT.DAT","rb") as F:
    while True:
    try:
```

_____ #3 statement to read
from the file
Countrec+=1 Total+=R[2] if R[2] > 75:
print(R[1], " has percent =
",R[2])
Countabove75+=1
except:
break
if Countabove75==0:
print("There is no student who has percentage more than 75")
average=Total/Countrec
print("average percent of class = ",average)
AddStudents()
GetStudents()

i. **Which of the following commands is used to open the file "STUDENT.DAT" for writing only in binary format? (marked as #1 in the Python code)**

(a) F= open("STUDENT.DAT",'wb')
(b) F= open("STUDENT.DAT",'w')
(c) F= open("STUDENT.DAT",'wb+')
(d) F= open("STUDENT.DAT",'w+')

ii. **Which of the following commands is used to write the list L into the binary file, STUDENT.DAT? (marked as #2 in the Python code)**

(a) pickle.write(L,f) (b) pickle.write(f, L)
(c) pickle.dump(L,F) (d) f=pickle.dump(L)

iii. **Which of the following commands is used to read each record from the binary file STUDENT.DAT? (marked as #3 in the Python code)**

(a) R = pickle.load(F)
(b) pickle.read(r,f)
(c) r= pickle.read(f)
(d) pickle.load(r,f)

iv. **Which of the following statement(s) are correct regarding the file access modes?**

(a) 'r+' opens a file for both reading and writing. File object points to its beginning.
(b) 'w+' opens a file for both writing and reading. Adds at the end of the existing file if it exists and creates a new one if it does not exist.
(c) 'wb' opens a file for reading and writing in binary format. Overwrites the file if it exists and creates a new one if it does not exist.
(d) 'a' opens a file for appending. The file pointer is at the start of the file if the file exists.

v. **Which of the following statements correctly explain the function of seek() method?**

(a) tells the current position within the file.
(b) determines if you can move the file position or not.
(c) indicates that the next read or write occurs from that position in a file.
(d) moves the current file position to a given specified position

3. Krrishnav is looking for his dream job but has some restrictions. He loves Delhi and would take a job there if he is paid over Rs.40,000 a month. He hates Chennai and demands at least Rs. 1,00,000 to work there. In any another location he is willing to work for Rs. 60,000 a month. The following code shows his basic strategy for evaluating a job offer.

Code:

pay = _____
location= _____
if location == "Mumbai":
    print ("I'll take it!") #Statement 1

```
elif location == "Chennai":
if pay < 100000:
print ("No way") #Statement 2
else:
print("I am willing!") #Statement 3
elif location == "Delhi" and pay > 40000:
print("I am happy to join") #Statement 4
elif pay > 60000:
print("I accept the offer") #Statement 5
else:
print("No thanks,I can find something better") #Statement 6
```

On the basis of the above code, choose the right statement which will be executed when different inputs for pay and location are given.

i. Input: location="Chennai", pay=50000

(a) Statement 1 (b) Statement 2
(c) Statement 3 (d) Statement 4

ii. Input: location = "Surat" ,pay = 50000

(a) Statement 2 (b) Statement 4
(c) Statement 5 (d) Statement 6

iii. Input- location = "Any Other City", pay = 1

(a) Statement 1 (b) Statement 2
(c) Statement 4 (d) Statement 6

iv. Input location = "Delhi", pay = 500000

(a) Statement 6 (b) Statement 5
(c) Statement 4 (d) Statement 3

v. Input-location="Lucknow", pay=65000

(a) Statement 2 (b) Statement 3
(c) Statement 4 (d) Statement 5

4. Consider the following code and answer the questions that follow: Book={1:'Thriller', 2:'Mystery', 3:'Crime', 4:'Children Stories'}

Library ={'5':'Madras Diaries','6':'Malgudi Days'}

i. Ramesh needs to change the title in the dictionary book from 'Crime' to 'Crime Thriller'. He has written the following command:

Book['Crime']='Crime Thriller'

But he is not getting the answer. Help him choose the correct command:

(a) Book[2]='Crime Thriller'
(b) Book[3]='Crime Thriller'
(c) Book[2]=('Crime Thriller')
(d) Book[3] =('Crime Thriller')

ii. The command to merge the dictionary Book with Library the command would be:

(a) d=Book+Library
(b) print(Book+Library)
(c) Book.update(Library)
(d) Library.update(Book)

iii. What will be the output of the following line of code: print(list(Library))

(a) ['5','Madras Diaries','6','Malgudi Days']
(b) ('5','Madras Diaries','6','Malgudi Days')
(c) ['Madras Diaries','Malgudi Days']
(d) ['5','6']

iv. In order to check whether the key 2 is present in the dictionary Book, Ramesh uses the following command:

2 in Book

He gets the answer 'True'. Now to check whether the name 'Madras Diaries' exists in the dictionary Library, he uses the following command:

'Madras Diaries' in Library

But he gets the answer as 'False'. Select the correct reason for this:

(a) We cannot use the in function with values. It can be used with keys only.
(b) We must use the function Library.values() along with the in operator
(c) We can use the Library.items() function instead of the in operator
(d) Both b and c above are correct.

v. With reference to the above declared dictionaries, predict the output of the following code fragments

Code 1	**Code 2**
Library=Book	Library=Book.copy()
Library.pop(2)	Library.pop(2)
print(Library)	print(Library)
print(Book)	print(Book)

(a) **Code 1**

{1: 'Thriller', 2: 'Mystery', 3: 'Crime', 4: 'Children Stories'}

{1: 'Thriller', 2: 'Mystery', 3: 'Crime', 4: 'Children Stories'}

Code 2

{1: 'Thriller', 3: 'Crime', 4: 'Children Stories'}

{1: 'Thriller', 3: 'Crime', 4: 'Children Stories'}

(b) **Code 1**

{2:'Mystery'}

{1: 'Thriller', 2: 'Mystery', 3: 'Crime', 4: 'Children Stories'}

Code 2

{1: 'Thriller', 3: 'Crime', 4: 'Children Stories'}

{1: 'Thriller', 3: 'Crime', 4: 'Children Stories'}

(c) **Code 1**

{1: 'Thriller', 3:'Crime', 4: 'Children Stories'}

{1: 'Thriller', 3: 'Crime', 4: 'Children Stories'}

Code 2

{1: 'Thriller', 3:'Crime', 4: 'Children Stories'}

{1: 'Thriller', 2:'Mystery', 3: 'Crime', 4:'Children Stories'}

(d) **Code 1**

{1: 'Thriller', 3:'Crime', 4: 'Children Stories'}

{1: 'Thriller', 2: 'Mystery', 3: 'Crime', 4: 'Children Stories'}

Code 2

{1: 'Thriller', 3:'Crime', 4: 'Children Stories'}

{1: 'Thriller', 3: 'Crime', 4: 'Children Stories'}

5. In a Database, there are two tables with the instances given below:

Table: STUDENTS

ADMNO	NAME	CLASS	SEC	RNO	ADDRESS	PHONE
1211	MEENA	12A	D	4	A-26	3245678
1212	VANI	10A	D	1	B-25	5456789
1213	MEENA	12B	A	1	NULL	NULL
1214	KARISH	10B	B	3	AB-234	4567890

Table: SPORTS

ADMNO	GAME	COACHNAME	GRADE
1215	CRICKET	MR. RAVI	A
1213	VOLLEYBALL	MR. AMANDEEP	B
1211	VOLLEYBALL	MR. GOVARDHAN	A
1212	BASKET BALL	MR TEWARI	B

i. Choose the command to display name and game of those students whose address is available in students' table.

(a) SELECT NAME, GAME FROM STUDENTS, SPORTS WHERE STUDENTS.ADMNO= SPORTS.ADMNO AND ADDRESS IS NOT NULL;

(b) SELECT NAME, GAME FROM STUDENTS, SPORTS WHERE STUDENTS.ADMNO= SPORTS.ADMNO AND ADDRESS IS NULL;

(c) SELECT NAME, GAME FROM STUDENTS, SPORTS WHERE STUDENTS.ADMNO= SPORTS.ADMNO, ADDRESS IS NULL;

(d) SELECT NAME, GAME FROM STUDENTS, SPORTS WHERE STUDENTS.ADMNO= SPORTS.ADMNO NOT ADDRESS IS NULL;

ii. Identify the statement to delete a column phone from the table students.

(a) ALTER TABLE STUDENTS DROP PHONE;
(b) DROP PHONE;
(c) UPDATE DROP PHONE;
(d) DELETE FROM STUDENTS WHERE DROP PHONE;

iii. Choose the command to display Name of the students who are studying in class 12 and their corresponding Coach names

(a) SELECT NAME, COACHNAME FROM STUDENTS, SPORTS WHERE CLASS LIKE "12%" AND STUDENTS.ADMNO =SPORTS.ADMNO;

(b) SELECT NAME, COACHNAME FROM STUDENTS, SPORTS WHERE CLASS LIKE "12%" AND STUDENTS.ADMNO= SPORTS.ADMNO;

(c) SELECT NAME, COACHNAME FROM STUDENTS, SPORTS WHERE CLASS LIKE "12%" AND ADMNO.STUDENTS =ADMNO.SPORTS;

(d) SELECT NAME, COACHNAME FROM STUDENTS, SPORTS WHERE CLASS LIKE= "12%" AND STUDENTS.ADMNO =SPORTS.ADMNO;

iv. Which two select queries will give the same output

(A) SELECT NAME, GRADE FROM STUDENTS,SPORTS WHERE ADDRESS IS NULL AND STUDENTS.ADMNO =SPORTS.ADMNO ;

(B) SELECT NAME, GRADE FROM STUDENTS,SPORTS WHERE ADDRESS IS NOT NULL AND STUDENTS.ADMNO =SPORTS.ADMNO ;

(C) SELECT NAME, GRADE FROM STUDENTS,SPORTS WHERE ADDRESS IS NULL OR STUDENTS.ADMNO=SPORTS.ADMNO ;

(D) SELECT ST.NAME, SP.GRADE FROM STUDENTS ST,SPORTS SP WHERE ADDRESS IS NULL AND ST.ADMNO=SP.ADMNO ;

(a) A and B (b) B and C
(c) A and D (d) C and D

v. Choose the command to count the number of students who play volleyball

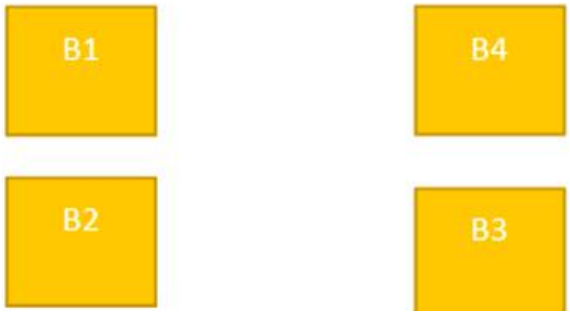
(a) SELECT COUNT(*) FROM STUDENTS, SPORTS WHERE GAME="VOLLEYBALL" AND STUDENTS.ADMNO =SPORTS. ADMNO;

(b) SELECT COUNT(GAME) FROM STUDENTS, SPORTS WHERE GAME="VOLLEYBALL" AND STUDENTS. ADMNO = SPORTS . ADMNO;

(c) SELECT COUNT(*) FROM STUDENTS, SPORTS WHERE GAME="VOLLEYBALL" ;

(d) SELECT COUNT(*) FROM STUDENTS, SPORTS WHERE SPORTS="VOLLEYBALL" AND STUDENTS.ADMNO = SPORTS. ADMNO;

6. A company ABC Enterprises has four blocks of buildings as shown:



Center to center distance between various blocks

B3 TO B1	50 M
B1 TO B2	60 M
B2 TO B4	25 M
B4 TO B3	170 M
B3 TO B2	125 M
B1 TO B4	90 M

Number of computers in each block :

B1	150 M
B2	15 M
B3	15 M
B4	25 M

Computers in each block are networked but blocks are not networked. The company has now decided to connect the blocks also.

i. **Suggest the most appropriate topology for the connections between the blocks.**

(a) Ring topology (b) Star topology

(c) Mesh topology (d) Bus topology

ii. **The company wants internet accessibility in all the blocks. The suitable and cost-effective technology for that would be:**

(a) Satellite (b) Lease line

(c) Telephone line (d) Broadband

iii. **Which one of the following devices will you suggest for connecting all the computers with in each of their blocks?**

(a) Switch/Hub (b) Modem

(c) Telephone (d) Repeater

iv. **The company is planning to link its head office situated in New Delhi with the offices in hilly areas. Suggest a way to connect it economically:**

(a) Micro waves (b) Coaxial cable

(c) Fibre optic (d) Radio waves

v. **Suggest the most appropriate location of the server, to get the best connectivity for maximum number of computers.**

(a) BLOCK B2 (b) BLOCK B1

(c) BLOCK B4 (d) BLOCK B3

7. Millions of computer science students have taken a course on algorithms and data structures, typically the second course after the initial one introducing programming. One of the basic data structures in such a course is the stack. The stack has a special place in the emergence of computing as a science, as argued by Michael Mahoney, the pioneer of the history of the theory of computing. The Stack can be used in many computer applications, few are given below:

(a) In recursive function

(b) When function is called.

(c) Expression conversion such as - Infix to Postfix, Infix to Prefix, Postfix to Infix, Prefix to Infix.

In Stack, insertion operation is known as Push whereas deletion operation is known as Pop.

Code - 1

```
def push(Country,N):
Country. (len(Country),N))      #Statement 1
#Function Calling Country=[]
C=['Indian', 'USA', 'UK', 'Canada',  'Sri Lanka']
for i in range(0,len(C),    ):  #Statement 2
push(Country,C[i]) print(Country)
```

Required Output:

['Indian', 'UK', 'Sri Lanka']

Code - 2

```
def pop(Country):
if   :                          #Statement 3
return "Under flow"
else:
return Country.      ()         #Statement 4
#Function Calling
for i in range(len(Country)+1):
print(                )         #Statement 5
```

Required Output:

Sri Lanka UK

India Under flow

Fill the above statement based on given questions:

i. **Identify the suitable code for the blank of statement 1.**

(a) .append()
(b) .insert()
(c) .extend()
(d) .append(len(Country),N)

ii. **Fill the statement 2, to insert the alternate element from Country list.**

(a) 3 (b) 0
(c) -1 (d) 2

iii. **Fill the statement 3, to check the stack is empty.**

(a) Country=[]
(b) Country.isEmpty()
(c) len(country)==0
(d) No of the above

iv. **Fill the statement 4, to delete an element from the stack.**

(a) pop(1) (b) pop()
(c) del country[1] (d) Country.delete(1)

v. **Fill the statement 5, to call the pop function.**

(a) pop(C) (b) pop(Country)
(c) call pop(Country) (d) def pop(Country)

8. Arun, during Practical Examination of Computer Science, has been assigned an incomplete search() function to search in a pickled file student.dat. The File student.dat is created by his Teacher and the following information is known about the file.

- File contains details of students in [roll_no,name,marks] format.
- File contains details of 10 students (i.e. from roll_no. 1 to 10) and separate list of each student is written in the binary file using dump().

Arun has been assigned the task to complete the code and print details of roll number 1.

```
def search():
f = open("student.dat",___)     #Statement-1
_____:                          #Statement-2
while True:
rec = pickle. _____             #Statement-3
if(_____):                      #Statement-4
print(rec)
except:
pass
                                #Statement-5
```

i. In which mode Arun should open the file in Statement-1?

(a) r (b) r+

(c) rb (d) wb

ii. Identify the suitable code to be used at blank space in line marked as Statement- 2

(a) if(rec[0]==1) (b) for i in range(10)

(c) try (d) pass

iii. Identify the function (with argument), to be used at blank space in line marked as Statement-3.

(a) load() (b) load(student.dat)

(c) load(f) (d) load(fin)

iv. What will be the suitable code for blank space in line marked as Statement-4.

(a) rec[0]==2 (b) rec[1]==2

(c) rec[2]==2 (d) rec[0]==1

v. Which statement Arun should use at blank space in line marked as Statement- 4 to close the file.

(a) file.close() (b) close(file)

(c) f.close() (d) close()

9. Radha Shah is a programmer, who has recently been given a task to write a python code to perform the following CSV file operations with the help of two user defined functions/modules:

(a) CSVOpen() : to create a CSV file called BOOKS.CSV in append mode containing information of books - Title, Author and Price.

(b) CSVRead() : to display the records from the CSV file called BOOKS.CSV where the field title starts with 'R'.

She has succeeded in writing partial code and has missed out certain statements, so she has left certain queries in comment lines.

```
import csv
def CSVOpen():
with open('books.csv',' _______',newline='') as
csvf:                          #Statement-1
cw= _______                    #Statement-2
                               #Statement-3
cw.writerow(['Rapunzel','Jack',300])
cw.writerow(['Barbie','Doll',900])
cw.writerow(['Johnny','Jane',280])
def CSVRead():
try:
with open('books.csv','r') as csvf: cr=
                               #Statement-4
for r in cr:
if                       :     #Statement-5
print(r)
except:
print('File Not Found')
CSVOpen()
 CSVRead()
```

You as an expert of Python have to provide the missing statements and other related queries based on the following code of Radha.

Answer any four questions (out of five) from the below mentioned questions.

i. **Choose the appropriate mode in which the file is to be opened in append mode (Statement 1)**

(a) w+ (b) ab
(c) r+ (d) a

ii. **Which statement will be used to create a csv writer object in Statement 2.**

(a) csv.writer(csvf) (b) csv.writer(csvf)
(c) csvf.writer() (d) cs.writer(csvf)

iii. **Choose the correct option for Statement 3 to write the names of the column headings in the CSV file, BOOKS.CSV.**

(a) cw.writerow('Title','Author','Price')
(b) cw.writerow(['Title','Author','Price'])
(c) cw.writerows('Title','Author','Price')
(d) cw.writerows(['Title','Author','Price'])

iv. **Which statement will be used to read a csv file in Statement 4.**

(a) cs.read(csvf) (b) csv.reader(csvf)
(c) csvf.read() (d) csvf.reader(cs)

v. **Fill in the appropriate statement to check the field Title starting with 'R' for Statement 5 in the above program.**

(a) r[0][0]=='R' (b) r[1][0]=='R'
(c) r[0][1]=='R' (d) r[1][1]=='R'

10. Ankita is writing a program to perform some operations in Queue. She has created three Insert_in_Queue(Student), Delete_ from_ Queue(Student) and Print_ Queue (Student) methods/functions in Python to add a new Student name, delete a Student name and print list of student from a queue, considering them to act as insert, delete and print operations of the Queue data structure. She is not getting the desired result. Help her to get the desired result from the given python code.

```
def Insert_in_Queue(queue):
a=input("enter student name: ")
queue. _________          # Statement-1
def Delete_from_Queue (queue):
if (_________):           # Statement-2
print("Queue empty")
else:
print("Deleted element is: ",queue[0])
del queue[ _______ ]      #Statement-3
def Print_Queue(queue):
if not _________ :        #Statement-4
print(queue[ :________])  # Statement-5
```

i. **What Ankita should write to complete the Statement-1 to store the student name?**

(a) queue.append(a)
(b) queue=append(a)
(c) queue.append=a
(d) append(a).queue

ii. **Fill in the blank in Statement-2 to check whether the queue is empty or not?**

(a) isEmpty(Queue) (b) isEmpty(q)
(c) Queue. is Empty (d) Empty.Queue

iii. **iii. Fill in the blank in Statement-3 with index number.**

(a) delete(0) (b) del queue[0]
(c) delete.queue(0) (d) queue.delete[0]

iv. **Select the correct option to complete the statement at statement-4.**

(a) isEmpty( ) (b) Empty( )
(c) len( ) = 0 (d) not Empty

v. **Specify the range to print all queue elements in statement-5?**

(a) print(queue=[0:len=(queue)])
(b) print(queue[0:len(queue)])
(c) print(queue[[0:len]])
(d) print(queue[0=len(queue)])

11. Your teacher has given you a method/function FilterWords() in python which read lines from a text file NewsLetter.TXT, and display those words, which are lesser than 4 characters. Your teachers intentionally kept few blanks in between the code and asked you to fill the blanks so that the code will run to find desired result. Do the needful with the following python code.

```
def FilterWords():
c=0
file=open('NewsLetter.TXT', '    ____')
                                    #Statement-1
line = file_____.                   #Statement-2
word =_______                       #Statement-3
for c in word:
    if _____________:               #Statement-4
    print(c)
_____________                       #Statement-5
FilterWords()
```

(i) Write mode of opening the file in statement-1?

(a) a (b) ab
(c) w (d) r

ii. Fill in the blank in statement-2 to read the data from the file.

(a) File.Read() (b) file.read()
(c) read.lines( ) (d) readlines( )

iii. Fill in the blank in statement-3 to read data word by word.

(a) Line.Split() (b) Line.split()
(c) line.split() (d) split.word()

iv. Fill in the blank in statement-4, which display the word having lesser than 4 characters.

(a) len(c) ==4 (b) len(c)<4
(c) len ( )= =3 (d) len ( )==3

v. Fill in the blank in Statement-5 to close the file.

(a) file.close() (b) File.Close()
(c) Close() (d) end()

ANSWER KEYS

1.	i.	(c)	4.	i.	(b)	7.	i.	(b)	10.	i.	(a)
	ii.	(b)		ii.	(d)		ii.	(d)		ii.	(a)
	iii.	(c)		iii.	(d)		iii.	(c)		iii.	(b)
	iv.	(d)		iv.	(b)		iv.	(b)		iv.	(a)
	v.	(c)		v.	(c)		v.	(b)		v.	(b)
2.	i.	(a)	5.	i.	(a)	8.	i.	(c)	11.	i.	(d)
	ii.	(c)		ii.	(a)		ii.	(c)		ii.	(b)
	iii.	(a)		iii.	(a)		iii.	(c)		iii.	(c)
	iv.	(a)		iv.	(c)		iv.	(d)		iv.	(b)
	v.	(d)		v.	(a)		v.	(c)		v.	(a)
3.	i.	(b)	6.	i.	(b)	9.	i.	(d)			
	ii.	(d)		ii.	(d)		ii.	(b)			
	iii.	(d)		iii.	(a)		iii.	(b)			
	iv.	(c)		iv.	(d)		iv.	(b)			
	v.	(d)		v.	(b)		v.	(a)			

7. DATA STRUCTURE : STACK

(a) Multiple Choice Questions

1. A _____ is a way to store, organize, or manage data in efficient and productive manner.
2. A stack is one of the following types of data structure?
   a) Linear b) Dynamic
   c) Circular d) All of these
3. Stack data structure is following _____ principle.
4. In stack data can be inserted or deleted from _____ only.
5. The insert operation in the stack is known as pop. (True/False)
6. You can replace any element position in the stack. (True/False)
7. The peek operation refers to accessing/ inspecting the top element in the stack. (True/False)
8. A condition raise due to the stack is full is known as _____.
   a) Underflow b) Overflow
   c) List is full d) Completely Filled
9. While popping the element from the stack, a condition will be raised, this condition is known as _____.
   a) Underflow b) Overflow
   c) List is Empty d) Blank List
10. Stack overflow condition is raised in _____ operation where as Stack underflow condition is raised in _____ operations.

ANSWER KEYS

1. Data Structure
2. a) Linear
3. LIFO
4. Top
5. False
6. False
7. True
8. b) Overflow
9. a) Underflow
10. Push, Pop

(b) Very Short Answer Type Questions:

1. What do you mean by Data Structure?
2. FIFO data structure is?
3. LIFO data structure is?
4. Can we have nested list?
5. Name one linear data structure.
6. Name one non-linear data structure.
7. Name the operation for insertion in a stack.
8. Name the operation for deletion from a stack.
9. Name the function to find length of a list.
10. Indexing in list starts from ?

ANSWER KEYS

1. Data Structure means organization of data. A data structure has well defined operations or behavior.
2. QUEUE
3. STACK
4. Yes
5. Lists
6. Graphs
7. PUSH
8. POP
9. len( )
10. 0

(c) Short answer questions:

1. How is Data Structure different from Data Type?

Ans: Data Structure provides information regarding organization of data whereas Data Type provides information regarding the domain of values and operations that can be perform on data.

2. Define Stack

Ans: Stack - A stack is a linear list also known as LIFO list with the special property that items can be added or removed from only one end called the top

3. Name some operations commonly performed on data structures?

Ans: Traversal, Insertion, Deletion, Searching, Sorting, Merging etc.

4. What is a list?

Ans: A list is a mutable sequence of data elements indexed by their position. A list is represented using [ ] . e.g L=[10,20,30]

5. What is traversing? Write python code to traverse a list.

Ans: Traversing means accessing or visiting or processing each element of any data structure. L=[10,20,30,40,50] for x in L : print(x)

6. Name the methods used for inserting and deleting elements from a list.

Ans: Various methods for inserting elements in a list are - insert(), append(), extend() and methods used for deleting items from a list are - pop() , remove(), clear()

7. Write some applications of stack.

Ans: Reversing a string, compilers uses stack to store previous state of program, undo mechanism in text editors and backtracking.

8. Write some applications of queue.

Ans: Sharing of resources, CPU uses queue, Airport authorities uses queue for runways and many computer algorithms uses queue.

9. What do you mean by data structure? Explain your answer with a suitable example.

Ans: The systematic way of organization, storing, accessing and retrieving data including well-defined operations, behavior and properties is known as data structure.

Examples:

1. String - Contains sequence of characters
2. List - Contains sequence of different data types

10. What do you mean by the LIFO structure? Support your answer with real-life examples.

Ans: LIFO is one of the principles to access data from a data structure. It stands for Last In First Out. It refers to the item which is inserted last will be access frist. So the top element will be accessed first.

Example:

1. Books in the shelf
2. Stack of coins
3. Pile of chairs
4. Bangles on woman's wrist

11. Enlist a few of the fields where you feel a stack is used in real life.

Ans: The stack is used in many fields in our routine life. Some examples are:

1. Browsers History
2. Mobile Phone Call log
3. Tubewell boring machine
4. Undo and redo commands in software

12. What are the basic operations that can be performed on the stack?

Ans: There are two basic operations can be performed on the stack:

1. Push - Inserting an element
2. Pop - Deleting an element

13. What are the underflow and overflow conditions?

Ans: Underflow is the condition which occurs when stack is empty while trying to delete elements. Overflow is the condition which occurs while inerting an element when memory is exhausted.

14. Write steps on how you implement stack?

Ans: The steps are:

1. Create a stack
2. Push an element
3. Pop an element
4. Traverse/Display an element

15. Write a python function named is_underflow() to check a stack is an underflow.

```
def is_underflow(stk):
    if stk==[]:
        return True
    else:
        return False
```

16. Write a function to push an element into the stack.

```
def push(stk,e):
    stk.append(e)
    top = len(stk)-1
```

17. Write a python function to delete an element from the stack.

```
def pop_stack(stk):
    if stk==[]:
        return "UnderFlow"
    else:
        e = stk.pop()
        if len(stk)==0:
            top = None
        else:
            top = len(stk)-1
        return e
```

18. Write a function to display the stack elements.

```
def display(stk):
    if stk==[]:
        print("Stack is Empty")
    else:
        top = len(stk)-1
        print(stk[top],"-Top")
        for i in range(top-1,-1,-1):
            print(stk[i])
```

19. Write a function to inspect an element from the stack.

```
def peek(stk):
    if stk==[]:
        return "UnderFlow"
    else:
        top = len(stk)-1
        return stk[top]
```

20. Write functions AddPlayer(player) and DeletePlayer(player) in python to add and remove a player by considering them as push and pop operations in a stack.

```
def AddPlayer(player):
    pn=input("enter player name:")
    player.append(pn)
def DeletePlayer(player):
    if player==[]:
        print("No player found")
    else:
        return player.pop()
```

(d) Long Questions

1. Write a program to reverse a string using stack.
2. For the following arithmetic expression:

   ((2+3) * (4/2))+2

   Show step-by-step process for matching parenthesis using stack data structure.
3. Evaluate the following postfix expressions while showing the status of stack after each operations

   Given A=3, B=5, C=1, D=4

   a) A B + C *

   b) A B * C / D *
4. Write an algorithm to covert arithmetic infix notation to postfix notation using stack.
5. Convert the infix notation to postfix notation using stack.

   a) A + B - C * D

   b) A * ((C + D) / E)

UNIT - II

Computer Networks

SET - I

1. A set of nodes connected by _____ is called a Network.

(a) link (b) wire
(d) hardware (d) None of these

2. Computer Network is

(a) Collection of hardware components and computers
(b) Interconnected by communication channels
(c) Sharing of resources and information
(d) All of the Above

3. The best example of computer network is _____.

(a) Switch (d) Router
(c) Internet (d) None of these

4. How many layers of OSI Reference Model have?

(a) 4 (b) 5
(c) 6 (d) 7

5. The exchange of data between two devices through transmission medium is called _____.

(a) Communication
(b) Data Communication
(c) Both A & B
(d) None of these

6. **_____ is a set of rules which govern data communication.**

(a) Protocol (b) Message
(c) Information (d) All of these

7. What is the meaning of Bandwidth in Network?

(a) Transmission capacity of a communication channels
(b) Connected Computers in the Network
(c) Class of IP used in Network
(d) None of Above

8. Repeater operates in which layer of the OSI model?

(a) Physical layer (b) Data link layer
(c) Network layer (d) Transport layer

9. _____ is to regenerate the signal over the same network before the signal becomes too weak.

(a) Hub (b) Repeater
(c) Switch (d) Router

10. A _____ is a multiport repeater.

(a) Hub (b) Bridge
(c) Switch (d) Gateway

11. Bridge works in which layer of the OSI model?

(a) Application layer (b) Transport layer
(c) Network layer (d) Data link layer

12. What is the use of Bridge in Network?

(a) to connect two LANs
(b) to separate LANs
(c) to control Network Speed
(d) All of the above

13. A _____ is used to connect two LANs working on same protocol.

(a) Hub (b) Bridge
(c) Switch (d) Gateway

14. Router operates in which layer of OSI Reference Model?

(a) Physical Layer (b) Network Layer

(c) Transport Layer (d) Application Layer

15. What does Router do in a network?

(a) Forwards a packet to all outgoing links

(b) Forwards a packet to the next free outgoing link

(c) Determines on which outing link a packet is to be forwarded

(d) Forwards a packet to all outgoing links except the originated link

16. _____ normally connects LANs and WANs together.

(a) Hub (b) Bridge

(c) Switch (d) Routers

17. Routing tables of a router keeps track of _____.

(a) MAC Address Assignments

(b) Port Assignments to network devices

(c) Distribute IP address to network devices

(d) Routes to use for forwarding data to its destination

18. Layer-2 Switch is also called

(a) Multiport Hub (b) Multiport Switch

(c) Multiport Bridge (d) Multiport NIC

19. A _____ is a multi-port bridge with a buffer.

(a) Hub (b) Bridge

(c) Switch (d) Routers

20. A _____ is designed for small physical areas such as an office, group of buildings within 10KM radius.

(a) LAN (b) WAN

(c) MAN (d) None of these

21. A _____ covers towns and cities within 50KM radius.

(a) LAN (b) WAN

(c) MAN (d) None of these

22. It is used for the network that covers large distance such as cover states and countries.

(a) LAN (b) WAN

(c) MAN (d) None of these

23. _____ is a standard for short-distance wireless communication.

(a) Wi-Fi (b) WAN

(c) MAN (d) None of these

24. Which of the following is/are the advantages of wireless LANs.

i. Installation speed and simplicity

ii. Installation flexibility

iii. Scalability

(a) i and ii only (b) ii and iii only

(c) i and iii only (d) All i, ii and iii

25. What does protocol defines?

(a) Protocol defines what data is communicated

(b) Protocol defines how data is communicated

(c) Protocol defines when data is communicated

(d) All of above

26. What is the benefit of the Networking?

(a) File Sharing

(b) Easier access to Resources

(c) Easier Backups

(d) All of the Above

27. Which of the following is not the Networking Devices?

(a) Gateways (b) Window

(c) Routers (d) Firewalls

28. Which of the following is Software?

(a) Routers (b) Firewalls
(c) Gateway (d) Modems

29. Physical or logical arrangement of network is

(a) Topology
(b) Routing
(c) Networking
(d) None of the mentioned

30. In which topology there is a central controller or hub?

(a) Star (b) Mesh
(c) Ring (d) Bus

31. This topology requires multipoint connection

(a) Star (b) Bus
(c) Ring (d) None of these

32. Bus, ring and star topologies mostly used in the

(a) LAN (b) MAN
(c) WAN (d) Internetwork

33. Combination of two or more topologies are called

(a) Star (b) Bus
(c) Ring (d) Hybrid

34. Which of the following is not type of the network topology?

(a) Mesh (b) Bus
(c) Ring (d) Stub

35. In a network with 24 computers, which topology would require the most extensive cabling?

(a) Bus (b) Mesh
(c) Star (d) Tree

36. Mesh topology has _____ physical channels to link 'n' devices.

(a) n (b) n(n-1)/2
(c) (n-1) (d) None of these

37. In the star topology we use a central device

(a) Hub (b) Electrical cable
(c) Bus (d) None of these

38. Which topology is called completely connected network?

(a) Star (b) Mesh
(c) Tree (d) Bus

39. Data communication system spanning states, countries, or the whole world is _____

(a) LAN
(b) WAN
(c) MAN
(d) None of the mentioned

40. Expand WAN?

(a) World Area Network
(b) Wide Area Network
(c) Web Area Network
(d) None of the mentioned

41. Internet is

(a) A local computer network
(b) A worldwide network of computers
(c) An interconnected network of computers
(d) A worldwide interconnected network of computers which use a common protocol to Communicate with one another

42. Internet requires

(a) An international agreement to connect computers
(b) A local area network
(c) A commonly agreed set of rules to communicate between computers
(d) A World Wide Web

43. Each computer connected to the internet must

(a) Be an IBM PC

(b) Have a unique IP address

(c) Be internet compatible

(d) Have a modem connection

44. _____ is a device that routes data packets based on their IP address.

(a) Router (b) Bridge

(c) Switch (d) Gateway

45. Which of the following is a type of computer network?

(a) Telnet (b) MAN

(c) Bluetooth (d) HTTP

46. Which of the following is a valid network topology?

(a) WAN (b) MAN

(c) Ring (d) PAN

47. Which network device is used to amplify signal in long-distance networking?

(a) Switch (b) Repeater

(c) Hub (d) Bridge

48. WLL stands for _____.

(a) Wireless Local Loop

(b) Wireless local Link

(c) Wire Less link

(d) None of these

49. Modem is used mostly for?

(a) Mostly for file system

(b) A modern empty memory modules

(c) Connecting to internet

(d) None of above

50. Which type of cable is most likely in use with rj-45 connectors?

(a) 10base2 (b) 10base5

(c) 10baseT (d) 10baseFL

51. HTTP is _____ protocol.

(a) application layer (b) transport layer

(c) network layer (d) data link layer

52. In the network HTTP resources are located by

(a) uniform resource identifier

(b) unique resource locator

(c) unique resource identifier

(d) union resource locator

53. The term FTP stands for?

(a) File transfer program

(b) File transmission protocol

(c) File transfer protocol

(d) File transfer protection

54. _____ is used for FTP data.

(a) Port 20 (b) Port 21

(c) Port 22 (d) Port 23

55. The File Transfer Protocol is built on _____.

(a) data centric architecture

(b) service oriented architecture

(c) client server architecture

(d) connection oriented architecture

56. IPv4 address length is _____ bits.

(a) 16 (b) 32

(c) 64 (d) 128

57. How many address space can be generated in IPv4?

(a) 216 (b) 232

(c) 2 64 (d) 2 128

58. IPv6 address length is _____ bits.

(a) 16 (b) 32

(c) 64 (d) 128

59. Identify the class of the following IP address: 191.1.2.3.

(a) class A (b) class B

(c) class C (d) none of the above

60. A host can get its IP address from its server by using _____ as the source address and _____ as the destination address.

(a) 255.255.255.255; 0.0.0.0

(b) 127.0.0.0; 255.255.255.255

(c) 0.0.0.0; 255.255.255.255

(d) None of the above

ANSWER KEYS

1.	(a)	16.	(d)	31.	(b)	46.	(c)
2.	(d)	17.	(d)	32.	(a)	47.	(b)
3.	(c)	18.	(c)	33.	(d)	48.	(a)
4.	(d)	19.	(c)	34.	(d)	49.	(c)
5.	(b)	20.	(a)	35.	(b)	50.	(c)
6.	(a)	21.	(c)	36.	(b)	51.	(a)
7.	(a)	22.	(b)	37.	(a)	52.	(b)
8.	(a)	23.	(a)	38.	(b)	53.	(c)
9.	(b)	24.	(d)	39.	(b)	54.	(a)
10.	(a)	25.	(d)	40.	(b)	55.	(c)
11.	(d)	26.	(d)	41.	(d)	56.	(b)
12.	(a)	27.	(b)	42.	(c)	57.	(b)
13.	(b)	28.	(b)	43.	(b)	58.	(d)
14.	(b)	29.	(a)	44.	(a)	59.	(b)
15.	(c)	30.	(a)	45.	(b)	60.	(c)

SET - II

1. A Computer Network:

(a) Is a collection of hardware components and computers?

(b) Is interconnected by communication channels

(c) Allows sharing of resources and information

(d) All of the above

2. What is a Firewall in computer network?

(a) The physical boundary of network

(b) An operating system of computer network

(c) A system designed to prevent unauthorized access

(d) A web browsing software

3. What is the use of Bridge in the Network?

(a) To connect LANs

(b) To separate LANs

(c) To control network speed

(d) All of the above

4. Each IP packet must contain:

(a) Only Source address

(b) Only Destination address

(c) Source and Destination address

(d) Source or Destination address

5. Which of these is not a communication channel?

(a) Satellite (b) Microwave

(c) Radio wave (d) Wi-Fi

6. MAN Stands for _____.

(a) Metropolitan Area Network

(b) Main Area Network

(c) Metropolitan Access Network

(d) Metro Access Network

7. Which of the following is the smallest network?

(a) WAN (b) MAN

(c) PAN (d) LAN

8. Which transmission media is capable of having a much higher bandwidth (data capacity)?

(a) Coaxial (b) Twisted pair cable

(c) Untwisted cable (d) Fiber optic

9. Which type of transmission media is the least expensive to manufacture?

(a) Coaxial (b) Twisted pair cable

(c) CAT cable (d) Fiber optic

10. A device that forwards data packet from one network to another is called a

(a) Bridge (b) Router

(c) Hub (d) Gateway

11. What is a standalone computer?

(a) A computer that is not connected to a network

(b) A computer that is being used as a server

(c) A computer that does not have any peripherals attached to it

(d) A computer that is used by only one person

12. Which of the following is the fastest media of data transfer?

(a) Co-axial Cable (b) Untwisted Wire

(c) Telephone Lines (d) Fiber Optic

13. Hub is a

(a) Broadcast device (b) Unicast device

(c) Multicast device (d) None of the above

14. Switch is a

(a) Broadcast device (b) Unicast device

(c) Multicast device (d) None of the above

15. The device that can operate in place of a hub is a:

(a) Switch (b) Bridge
(c) Router (d) Gateway

16. In computer, converting a digital signal in to an analog signal is called

(a) modulation (b) demodulation
(c) conversion (d) transformation

17. What is the address size of IPv6?

(a) 32 bit (b) 64 bit
(c) 128 bit (d) 256 bit

18. Which of these is not an example of unguided media?

(a) Optical Fiber Cable
(b) Radio wave
(c) Bluetooth
(d) Satellite

19. Two devices are in network if

(a) A process in one device is able to exchange information with a process in another device
(b) A process is running on both devices
(c) The processes running of different devices are of same type
(d) None of the above.

20. Which of the following is not the Networking Devices?

(a) Gateways (b) Linux
(c) Routers (d) Firewalls

21. The location of a resource on the internet is given by its?

(a) Protocol (b) URL
(c) E-mail address (d) ICQ

22. The term HTTP stands for?

(a) Hyper terminal tracing program
(b) Hypertext tracing protocol
(c) Hypertext transfer protocol
(d) Hypertext transfer program

23. Which software prevents the external access to a system?

(a) Firewall (b) Gateway
(c) Router (d) Virus checker

24. Which one of the following is the most common internet protocol?

(a) HTML (b) NetBEUI
(c) TCP/IP (d) IPX/SPX

25. The term FTP stands for?

(a) File transfer program
(b) File transmission protocol
(c) File transfer protocol
(d) File transfer protection

26. Which one of the following is not a network topology?

(a) Star (b) Ring
(c) Bus (d) Peer to Pee

27. Which of the following is not an unit for data transfer rate?

(a) MBPS (b) KBPS
(c) SBPS (d) GBPS

28. This was the first network.

(a) CSNET (b) NSFNET
(c) ANSNET (d) ARPANET

29. A _____ is a data communication system within a building, campus, or between near by buildings.

(a) MAN (b) LAN
(c) WAN (d) None of the above

30. _____ is a collection of many separate networks.

(a) A MAN (b) An internet
(c) A LAN (d) None of the above

31. A _____ is a set of rules that governs data communication.

(a) forum (b) protocol
(c) standard (d) None of the above

32. Which of the following is required to communication between two computers?
(a) Communication hardware
(b) Communications software
(c) Protocol
(d) All of above including access to transmission medium

33. Bluetooth is an example of
(a) Wide area network
(b) Virtual private network
(c) Local area network
(d) Personal area network

34. A device which can be connected to a network without using cable is called
(a) Distributed device
(b) Centralized device
(c) Open-source device
(d) Wireless device

35. The vast network of computers that connects millions of people all over the world is called
(a) Internet (b) Hypertext
(c) LAN (d) Web

36. MAC address is of _____.
(a) 24 bits (b) 36 bits
(c) 42 bits (d) 48 bits

37. Which of the following appears harmless but actually performs malicious functions such as deleting or damaging files.
(a) WORM (b) Virus
(c) Trojan Horse (d) Malware

38. Name the protocol that is used to send emails.
(a) FTP (b) SMTP
(c) HTTP (d) TCP

39. Name the protocol that is used to receive emails
(a) POP (b) VOIP
(c) DHCP (d) FTP

40. Rajesh has purchased a new Smart TV and wants to cast a video from his mobile to his new Smart TV. Identify the type of network he is using:
(a) LAN (b) MAN
(c) WAN (d) PAN

41. The topology in which all nodes are individually connected to a central connection point:
(a) Ring (b) Bus
(c) Star (d) Tree

42. Which of the following best describes uploading information?
(a) Sorting data on a disk drive
(b) Sending information to a host computer
(c) Receiving information from a host computer
(d) Sorting data on a hard drive

43. The term IPv4 stands for?
(a) Internet Protocol Version 4
(b) Internet Programming Version 4
(c) International Programming Version 4
(d) None of these

44. In specific, if the systems use separate protocols, which one of the following devices is used to link two systems?
(a) Repeater (b) Gateway
(c) Bridge (d) Hub

45. DNS is the abbreviation of
(a) Dynamic Name System
(b) Dynamic Network System
(c) Domain Name System
(d) Domain Network Service

46. What is the meaning of Bandwidth in Network?
(a) Transmission capacity of a communication channels
(b) Connected Computers in the Network
(c) Class of IP used in Network
(d) None of Above

47. What does protocol defines?

(a) Protocol defines what data is communicated.

(b) Protocol defines how data is communicated.

(c) Protocol defines when data is communicated.

(d) All of above

48. Which of the following can be Software?

(a) Routers (b) Firewalls

(c) Gateway (d) Modems

49. The loss in signal power as light travels down the fiber is called_____.

(a) Attenuation (b) Propagation

(c) Scattering (d) Interruption

50. Which of the following TCP/IP protocols is used for transferring files form one machine to another?

(a) FTP (b) SNMP

(c) SMTP (d) RPC

51. Which of the following protocol is used for remote terminal connection service?

(a) RARP (b) UDP

(c) FTP (d) TELNET

52. Which of the following is considered as the unsolicited commercial email?

(a) Virus (b) Malware

(c) Spam (d) All of the above

53. It can be a software program or a hardware device that filters all data packets coming through the internet, a network, etc. it is known as the_____.

(a) Antivirus (b) Firewall

(c) Cookies (d) Malware

54. The term "TCP/IP" stands for_____.

(a) Transmission Contribution Protocol/ Internet Protocol

(b) Transmission Control Protocol / Internet Protocol

(c) Transaction Control protocol / Internet Protocol

(d) Transmission Control Protocol / Internet Protocol

55. Which of the following is a type of independent malicious program that never required any host program?

(a) Trojan Horse (b) Worm

(c) Trap Door (d) Virus

56. In order to ensure the security of the data / information, we need to _____ the data.

(a) Encrypt (b) Decrypt

(c) Delete (d) None of the above

57. Firewall is the type of _____.

(a) Virus (b) Security threats

(c) Worm (d) None of the above

58. It allows a visited website to store its own information about a user on the user's computer:

(a) Spam (b) Cookies

(c) Malware (d) Adware

59. In which of the following switching methods, the message is divided into small packets?

(a) Message switching

(b) Packet switching

(c) Circuit switching

(d) None of these

60. Which of the following switch methods creates a point-to-point physical connection between two or more computers?

(a) Message switching
(b) Packet switching
(c) Circuit switching
(d) None of these

61. MAC address is also called _____.

(a) Physical address
(b) Logical address
(c) Source address
(d) Destination address

62. ARPANET stands for _____.

(a) Advanced Recheck Projects Agency Internet
(b) Advanced Recheck Projects Agency Network
(c) Advanced Research Projects Agency Network
(d) Advanced Research Projects Agency Internet

63. Which of the following devices is not a networking device?

(a) Hub (b) Switch
(c) Bridge (d) None of these

64. How many pins does RJ-45 contain?

(a) Two (b) Four
(c) Eight (d) Ten

65. NIC Stands for -

(a) Network Identity Card
(b) Network Interface Code
(c) National Interface Card
(d) Network Interface Card

66. Which of the following is not a type of guided or wired communication channel?

(a) Twisted Pair (b) Coaxial
(c) Fibre Optic (d) WiMax

67. Which of the following is not a type of unguided or wireless communications channel?

(a) Microwave (b) Radiowave
(c) Ethernet (d) Sattelite

68. Which of the following wireless medium consists of a parabolic antena mounted on towers?

(a) Sattelite (b) Radiowave
(c) Microwave (d) Infrared

69. Which of the following cable consist of a solid wire core surrounded by one or more foil or wire shields?

(a) Ethernet Cables
(b) Coaxial Cables
(c) Fiber Optic Cables
(d) Power Cable

70. A collection of hyperlinked documents on the internet forms the ?

(a) World Wide Web (WWW)
(b) E-mail system
(c) Mailing list
(d) Hypertext

71. Protocols are set of rules to govern _____

(a) Communication
(b) Standard
(c) Metropolitan communication
(d) Bandwidth

72. An internet is a _____

(a) Collection of WANS
(b) Network of networks
(c) Collection of LANS
(d) Collection of identical LANS and WANS

73. Which protocol is commonly used to retrieve email from a mail server?

(a) FTP (b) IMAP
(c) HTML (d) TELNET

74. Which of the following allows user to view a webpage?

(a) Operating System (b) Website

(c) Interpreter (d) Internet Browser

75. **A network router joins two _____ together?**

(a) Computers (b) Switches

(c) Networks (d) Gateway

76. A network point that provides entrance into another network is called as _____

(a) Node (b) Gateway

(c) Switch (d) Router

77. TELNET used _____ protocol for data connection

(a) TCP (b) UDP

(c) IP (d) DHCP

78. Google Chrome is example of

(a) Programming Language

(b) Web Server

(c) Protocol

(d) Web Browser

79. Name the transmission media best suitable for connecting to hilly areas.

(a) Co-axial Cable (b) Twisted pair

(c) Microwave (d) Optical fiber

80. Rahul wants to establish computer network in his cyber café, which of the following device will be suggested by you to connect each computer in the cafe?

(a) Switch (b) Modem

(c) Gateway (d) Repeater

ANSWER KEYS

1.	(d)	15.	(a)	29.	(b)	43.	(a)	57.	(d)	71.	(a)
2.	(c)	16.	(a)	30.	(b)	44.	(b)	58.	(b)	72.	(b)
3.	(a)	17.	(c)	31.	(b)	45.	(c)	59.	(b)	73.	(b)
4.	(c)	18.	(a)	32.	(d)	46.	(a)	60.	(c)	74.	(d)
5.	(d)	19.	(a)	33.	(d)	47.	(d)	61.	(a)	75.	(c)
6.	(a)	20.	(b)	34.	(d)	48.	(b)	62.	(c)	76.	(b)
7.	(c)	21.	(b)	35.	(a)	49.	(a)	63.	(d)	77.	(a)
8.	(d)	22.	(c)	36.	(d)	50.	(a)	64.	(c)	78.	(d)
9.	(b)	23.	(a)	37.	(c)	51.	(d)	65.	(c)	79.	(c)
10.	(b)	24.	(c)	38.	(b)	52.	(c)	66.	(d)	80.	(a)
11.	(a)	25.	(c)	39.	(a)	53.	(b)	67.	(c)		
12.	(d)	26.	(d)	40.	(d)	54.	(b)	68.	(c)		
13.	(a)	27.	(c)	41.	(c)	55.	(b)	69.	(b)		
14.	(b)	28.	(d)	42.	(b)	56.	(a)	70.	(a)		

SET - III

1) What is an standalone computer system

a. It is a computer system with internet connectivity
b. It is a server
c. It is a computer without any networking
d. None is correct

2) The main computer in any network is called as

a. Client b. Server
c. Hub d. Switch

3) What is the full form of NIC

a. Network Interchange Card
b. Net Interconnect Card
c. Network Interface Card
d. Network Interconnection Card

4) Which is called a smart HUB

a. HUB with high speed ports
b. Switch
c. Router
d. All of the Above

5) A network with all client computer and no server is called

a. Networking
b. Peer to Peer Computing
c. Client Server Computing
d. Any of them

6) The wireless access point in the networking is also

a. An wireless switch
b. An Wireless Security Point
c. An Address where all the wifi devices connect
d. All of the above

7) Generally which topology is used in the backbone of Internet

a. BUS b. STAR
c. RING d. Any of them

8) IP Stands for

a. Internet Protocol b. Intranet Protocol
c. Internet Practice d. Intranet Practice

9) Which of this is not a part of URL

a. IP Address b. Port Number
c. Domain Name d. None of these

10) What is the example of Instant Messenger

a. Yahoo messenger
b. WhatApp messenger
c. iMessenger
d. All of them

11) Which of the following is an browser

a. Chrome b. Whatsapp
c. Twitter d. All of them

12) Repeaters work on the _____ layer

a. Network Layer b. Physical Layer
c. Application Layer d. All of the Above

13) Which device is used to transfer Communication Signal to Long Directions

a. Amplifier b. Repeater
c. Router d. All of the Above

14) Which topology in general uses less wire length compare to other

a. Star Topology
b. Ring Topology
c. Bus Topology
d. All use same Length of Wire

15) The device with smartly controls the flow of data over the network by hoping is

a. Router b. Gateway
c. Switch d. None of them

16) javascript is a _____ based language

a. interpretor b. compiler
c. None d. none of these

17) Which one in a micro blogging software

a. Twitter b. Facebook
c. Whatsapp d. All of them

18) Sending the email to any cc means

a. Sending the mail with a carbon copy
b. Sending the mail without a carbon copy
c. Sending the email to all and hiding the address
d. All of the above

19) The backbone of internet is

a. WAN Network
b. Fibre optical networks across long distances like intercontinental or intra continental
c. Wireless networks
d. All of them

20) Which is the physical address to identify the Machine uniquely in network

a. IP Address b. MAC Address
c. Computer Name d. Your Used ID

21) Online textual talk is called

a. Video Conference b. Text Chat
c. Video Call d. Audio Call

22) The First Page we generally view when we open the browser is called.

a. Default page b. First page
c. Home page d. Landing Page

23) URL stands for

a. Uniform Run Line
b. Uniform Resource Line
c. Uniform Resource Location
d. Uniform Resource Locator

24) Digital foot print is of ___ types

a. 1 b. 2
c. 3 d. 4

25) What is noise in the voice channel

a. Cable disturbance
b. Cable sort length
c. Loss of Signal Strength
d. Unwanted disturbance with the genuine signal

26) php language is used to create

a. Dynamic Website
b. Static Website
c. Both the types of website
d. It is not a programming language

27) HTML language is used to create

a. Accounting Program
b. Static Website
c. Both website and accounting program
d. It is not a programming language

28) Google is a

a. Web service b. Website
c. Program d. All of it

29) When the signal from one wire bleeds into another wire, it is called as

a. Radio waves b. Infrared
c. Laser d. None of them

30) Communication Media can be of _____ and _____ type

a. Twisted pair, Shielded Twisted pair
b. Fiber optics, coaxial
c. Guided, Unguided
d. Wire, Laser

31) To prevent unauthorized access to and / or from the network, a system known as _____, can be implemented by hardware and / or software

a. Antivirus b. Firewall
c. Software d. Hardware

ANSWER KEYS

1.	C	6.	D	11.	A	16.	A	21.	B	26.	C
2.	B	7.	A	12.	B	17.	A	22.	C	27.	B
3.	C	8.	A	13.	B	18.	A	23.	D	28.	A
4.	B	9.	A	14.	C	19.	B	24.	B	29.	C
5.	B	10.	A	15.	A	20.	B	25.	D	30.	C
										31.	B

Very Short Answer Type Questions (1 mark)

1. Give one example of each - Guided media and unguided media.
2. Name the protocol that is used to transfer file from one computer to another.
3. Name the transmission media best suitable for connecting to desert areas.
4. Rearrange the following terms in increasing order of speedy medium of data transfer: Telephone line, Fiber Optics, Coaxial Cable, Twisted Paired Cable.
5. Which of the following appears harmless but actually performs malicious functions such as deleting or damaging files.
   (a) WORM (b) Virus
   (c) Trojan Horse (d) Malware
6. Name the transmission media suitable to establish PAN.
7. Name the protocol that is used to upload and download files on internet
8. Name the protocol that is used to send emails.
9. Name the protocol that is used to receive emails.
10. Name the transmission media best suitable for connecting to hilly areas.
11. Name the fastest available transmission media.
12. Sunil has purchased a new Smart TV and wants to cast a video from his mobile to his new Smart TV. Identify the type of network he is using and explain it.
13. What is the need for a network?
14. Write the full form of following:
    a. NIC b. ICT
    c. PCB d. DND
    e. STP f. UTP
    g. CAT-6 h. CRT
    i. TFT j. LED
15. Expand WAN and MAN
16. Expand LAN and PAN
17. What is a Node ?
18. Why in NIC needed in the computer?
19. What is the use of a Server
20. What is the Latency in Bluetooth Headsets
21. What is an Networking Topology
22. How internet is difference from LAN or Networks?
23. To protect the data in the network from unauthorized access what device is used?
24. What is the use of ISP in internet networks?
25. Define the use of IP address
26. Why STAR network is more efficient in network fault tolerance in place of BUS network.

27. Raju wants to save the password and other setting for the website he will use what to save it in the computer.
28. Ravi is setting the home page of his browser. He will use _____ of the browser to set the set home page.
29. What is the use of modem?
30. Text chatting software used in computer network used which technology to communicate?
31. What is the use of router?
32. Keeping Password and OTP in proper safety is called as _____.
33. ftth network is fasted then STP cable network why is this correct
34. What do you mean by URL?
35. What is an absolute URL?
36. What is history in the browser?
37. What is the use of Hyperlink?

ANSWER KEYS

1. Guided media- Twisted pair, Coaxial Cable, Optical Fiber (any one)

   Unguided media- Radio waves, Satellite, Micro Waves (any one)
2. FTP
3. Microwave
4. Telephone line, Twisted Pair Cable, Coaxial Cable, Fiber Optics.
5. (c) Trojan Horse
6. Bluetooth, infra-red
7. FTP or HTTP
8. SMTP
9. POP
10. Microwave / Radio wave.
11. OFC (Optical Fiber Cable)
12. Sunil is using PAN-Personal Area Network. It is a private network which is setup by an individual to transfer data among his personal devices of home.
13. Network is the interconnection between systems for resource sharing like printing and internet sharing.
14. FULL ABBRIBIATION
    NIC - Network Interface Card
    ICT - Information and Communication Technology
    PCB - Printer Circuit Board
    DND - Do Not Disturb Directory
    STP - Shielded Twisted Pair
    UTP - Un-Shielded Twisted Pair
    CAT-6 - Category 6 Cables
    CRT - Cathod Ray Tube
    TFT - Thin Film Transistor
    LED - Light Emmited Diode
15. WAN - WIDE AREA NETWORK / MAN - METROPLITON AREA NETWORK
16. LAN- LOCAL AREA NETWORK / PAN - PERSONAL AREA NETWORK
17. Node is the client computer that is connected to a computer.
18. NIC is the card that create an interface between the computer and the internet or network medium.
19. Server is the Computer that serve as the main computer to serve information.

20. Bluetooth Headsets are used to get voice from the source but there is a delay in the voice and the video played.
21. Networking Topology is physical layout of the networking connection to the computer.
22. Internet is the network of networks and LAN is only a single network.
23. Firewall is used to save the network from un-authorised access.
24. It is the Internet Service Provider for the Clients.
25. IP or Internet Protocol Address is the 32 Bit Address Logical Number to be given to any network for uniquely identifying the Computers.
26. Because each node is connected directly to the main server and any fault is highly localized.
27. He will us his cookies in the browser to save the password and details.
28. Setting -> default page->home page address
29. Modem is used to connect Digital computer to Analog Line for Digital data Transfer.
30. They use IM (Instance Messaging) for Text Chatting other then SMS.
31. Router is used to connect all the different networks together. It also forwards and receives different data packets from different places.
32. Password Security Ethics.
33. Yes ftth is faster the STP because of ftth uses laser to transmit data.
34. URL (Uniform Resource Locator) is the human understandable format for website address.
35. An absolute URL is the complete website address with protocol and landing page details also.
36. History is the link to last visited websites in the browser.
37. Hyperlink is link to another website or page from the current page.

Short Answer Type Questions (2 marks)

1. Expand the following terms:

PAN	LAN	MAN	WAN
IPR	SIM	IMAP	HTTP
URL	POP3	SMTP	V0IP
TCP	Wi-Fi	GPRS	IRC
CDMA	TDMA	VPN	FLOSS
XML	SMS	GSM	PHP
FTP	DHCP	WWW	WLL
HTML			

2. What is difference between star topology and bus topology of network?
3. Write two advantages of using an optical fibre cable over an ethernet cable to connect two service stations, which are 190 m away from each other.
4. Differentiate between packet switching and message switching technique in network communication.
5. Which type of network (out of LAN, PAN and MAN) is formed, when you connect two mobiles using Bluetooth to transfer a picture file?
6. What is the difference between HTTP and FTP?
7. What is the advantage of using SWITCH over HUB?
8. What is difference between star topology and bus topology of network?
9. Define the term firewall.
10. What is the importance of URL in networking?

ANSWER KEYS

1. PAN - Personal Area Network
   LAN - Local Area Network
   MAN - Metropolitan Area Network
   WAN - Wide Area Network
   IPR - Intellectual Property Rights
   SIM - Subscriber's Identity Module
   IMAP - Internet Message Access Protocol
   HTTP - Hypertext Transfer Protocol
   URL - Uniform Resource Locator
   POP3 - Post office protocol ver. III
   SMTP - Simple Mail Transfer Protocol
   V0IP - Voice over Internet Protocol
   TCP - Transmission Control Protocol
   Wi-Fi - Wireless Fidelity
   GPRS - General Packet Radio Service
   IRC - Internet Relay Chat
   CDMA- Code Division Multiple Access
   TDMA- Time Division Multiple Access
   VPN - Virtual Private Network
   FLOSS - Free Libre Open Source Software
   XML - eXtensible Markup Language
   SMS - Short Messaging Service
   GSM - Global system for mobile communication
   PHP - Hypertext Preprocessor
   FTP - File Transfer Protocol
   DHCP - Dynamic Host Configuration Protocol
   WWW - World Wide Web
   WLL - Wireless Local Loop
   HTML - Hyper Text Markup Language

2. In star topology, nodes are connected to server individually whereas in bus topology all nodes are connected to server along a single length of cable.

3. Low power because signals in optical fibers degrade less, lower power transmitters can be used. Higher data rate due to higher bandwidth, data rate of optical fiber is more than the data rate of ethernet cable (upto 1 Gbps).

4. Message Switching In message switching data is stored in buffer form. The message is, sent to the nearest directly connected switching node. This process continues until data is delivered to the destination computer. Packet Switching In this form of switching data is transferring into packet form. A fixed size of packet that can be transmitted across the network is specified. All the packets are stored in the main memory instead of disk.

5. When two mobiles are connected using bluetooth to transfer a picture file, a PAN (Personal Area Network) is created.

6. FTP is a protocol used to upload files from a workstation to a FTP server or download files from a FTP server to a workstation. HTTP is a protocol used to transfer files from a web server onto a browser in order to view a web page that is on the Internet.

7. Switch provides a dedicated line at full bandwidth between two devices but hub doesn't provide a dedicated line. Hub shares the bandwidth.

8. In star topology, nodes are connected to server individually whereas in bus topology all nodes are connected to server along a single length of cable.

9. Firewall is a feature used for Network Security. In a Network there is always danger of information leaking out or leaking in. Firewall is a feature which forces all information entering or leaving the network to pass through a check to make sure that there is no unauthorized usage of the network.

10. URL stands for Uniform Resource Locator. Each page that is created for Web browsing is assigned a URL that effectively serves as the page's worldwide name or address. URL's have three parts: the protocol, the DNS name of the machine on which the page is located and a local name uniquely indicating the specific page (generally the filename)

Long Answer Type Questions

1. What is Computer Network? Discuss various types of computer networks with its advantages and disadvantages.
2. What is a network? What are its goals and applications?
3. Explain various wired and wireless technologies used in communication networks. Also highlight their merits and demerits.
4. What is a network topology? Explain the working of different topologies highlighting their merits and demerits.
5. Write the name of three network topologies. Describe them with their advantages and disadvantages.
6. Discuss and compare various types of networks.
7. What are hubs? What are its types?
8. What is the role of a switch in a network?
9. Briefly discuss the role of following devices in the context of networking.
   (i) Router (ii) bridge (iii) gateway
10. When would you prefer
    (i) bridges over hubs
    (ii) switch over other network devices?
11. Discuss IP Address in brief.
12. When would you opt for a router in a network?
13. What are hubs? How are active hubs different from passive hubs?
14. What are the facilities provided by the SERVER in a Network environment?
15. Compare circuit switching and packet switching.
16. Write Notes on:
    (i) HTTP (ii) FTP (iii) WWW (iv) PPP

UNIT - III
Database Management
SET - I

1. What is the full form of SQL?
(a) Structured Query Language
(b) Structured Query List
(c) Simple Query Language
(d) Data Derivation Language

2. What does DML stand for?
(a) Different Mode Level
(b) Data Model Language
(c) Data Mode Lane
(d) Data Manipulation Language

3. The _____ clause of SELECT query allows us to select only those rows in the results that satisfy a specified condition.
(a) where (b) from
(c) having (d) like

4. Which of the following function is used to FIND the largest value from the given data in MYSQL?
(a) MAX () (b) MAXIMUM ()
(c) LARGEST () (d) BIG ()

5. The data types CHAR (n) and VARCHAR (n) are used to create _____ and _____types of string/text fields in a database.
(a) Fixed, equal (b) Equal, variable
(c) Fixed, variable (d) Variable, equal

6. The term _____ is use to refer to a record in a table.
(a) Attribute (b) Tuple
(c) Row (d) Instance

7. Which command is used for cleaning up the environment (sql with Python)?
(a) my.close (b) is.close
(c) con.close (d) mycon.close

8. A relational database consists of a collection of
(a) Tables (b) Fields
(c) Records (d) Keys

9. What is the full form of DDL?
(a) Dynamic Data Language
(b) Detailed Data Language
(c) Data Definition Language
(d) Data Derivation Language

10. A(n) in a table represents a logical relationship among a set of values.
(a) Attribute (b) Key
(c) Tuple (d) Entry

11. Name the method which is used for displaying only one resultset.
(a) fetchmany (b) fetchno
(c) fetchall (d) fetchone

12. Name the host name used for signing in the database.
(a) localhost (b) localpost
(c) localcost (d) none of the above

13. A relational database consists of a collection of
(a) Tuples (b) Attributes
(c) Relations (d) Keys

14. Which is the subset of SQL commands used to manipulate database structure including tables?
(a) Data Definition Language (DDL)
(b) Data Manipulation Language (DML)
(c) Both (a) and (b)
(d) None

15. The term _____ is used to refer to a field in a table.

(a) Attribute (b) Tuple
(c) Row (d) Instance

16. Consider the following table namely employee:

Employee_id	Name	Salary
5001	Amit	60000
5009	Sumit	45000
5020	Arpit	70000

Which of the names will not be displayed by the below given query? SELECT name FROM employee WHERE employee_id>5009;

(a) Amit, Sumit (b) Sumit, Arpit
(c) Arpit (d) Amit, Arpit

17. Consider the following query

SELECT name FROM stu

WHERE subject LIKE '_____ Computer Science';

Which one of the following has to be added into the blank space to select the subject which has Computer Science as its ending string?

(a) $ (b) _
(c) || (d) %

18. Consider following SQL statement. What type of statement is this?

SELECT * FROM employee

(a) DML (b) DDL
(c) DCL (d) Integrity constraint

19. Which of the following function is not an aggregate function?

(a) Round () (b) Sum()
(c) Count () (d) Avg ()

20. Pick the correct username used for logging in database (sql with Python).

(a) root (b) local
(c) directory (d) host

21. Aggregate functions can be used in the select list or the _____ clause of a select statement.

They cannot be used in a _____ clause.

(a) Where, having (b) Having, where
(c) Group by, having (d) Group by, where

22. Select correct SQL query from below to find the temperature in increasing order of all cites.

(a) SELECT city FROM weather ORDER BY temperature;
(b) SELECT city, temperature FROM weather;
(c) SELECT city, temperature FROM weather ORDER BY temperature;
(d) SELECT city, temperature FROM weather ORDER BY city;

23. In SQL, which command is used to SELECT only one copy of each set of duplicable rows

(a) SELECT DISTINCT
(b) SELECT UNIQUE
(c) SELECT DIFFERENT
(d) All of the above

24. Which of the following is a SQL aggregate function?

(a) LEFT (b) AVG
(c) JOIN (d) LEN

25. The command used for modifying the records is:

(a) update (b) add
(c) updateall (d) none of the above

26. An attribute in a relation is foreign key if it is the ____key in any other relation.

(a) Candidate (b) Primary
(c) Super (d) Sub

27. Which of the following sublanguages of SQL is used to query information from the data base and to insert tuples into, delete tuples from, and modify tuples in the database?

(a) DML (Data Manipulation Language)

(b) DDL (Data Definition Language)

(c) Query

(d) Relational Schema

28. Which operator performs pattern matching?

(a) BETWEEN operator

(b) LIKE operator

(c) EXISTS operator

(d) None of these

29. Which of the following is not a legal method for fetching records from database from within Python?

(a) fetchone() (b) fetchtwo()

(c) fetchall() (d) fetchmany()

30. By default, ORDER BY clause lists the results in _____ order.

(a) Descending (b) Any

(c) Same (d) Ascending

31. Which of the following attributes can be considered as a choice for primary key?

(a) Name (b) Street

(c) Roll No. (d) Subject

32. In the given query which keyword has to be inserted?

INSERT INTO employee_____(1002, "Kausar", 2000);

(a) Table (b) Values

(c) Relation (d) Field

33. What SQL statement do we use to display the record of all students whose last name contains 5 letters ending with "A"?

(a) SELECT * FROM STUDENTS WHERE LNAME LIKE '_____A';

(b) SELECT * FROM STUDENTS WHERE LNAME LIKE '_____';

(c) SELECT * FROM STUDENTS WHERE LNAME LIKE '????A';

(d) SELECT * FROM STUDENTS WHERE LNAME LIKE '*A';

34. Consider the table with structure as: Student (ID, name, dept name, tot_cred) In the above table, which attribute will form the primary key?

(a) Name (b) Dept

(c) total_credits (d) ID

35. Which of the following will you use in the following query to display the unique values of the column

dept_name?

SELECT __ dept_name FROM Company;

(a) All (b) From

(c) Distinct (d) Name

36. Consider the following query:

SELECT name, instructor name, course _____ id FROM instructor;

To display the field heading course with a different heading as id, which keyword must be used here to rename the field name?

(a) From (b) Rename

(c) As (d) Join

37. With SQL, how do you select all the records from a table named "Students" where the value of the column "FirstName" ends with an "a"?

(a) SELECT * FROM Students WHERE FirstName ='a'

(b) SELECT * FROM Students WHERE FirstName LIKE 'a%'

(c) SELECT * FROM Students WHERE FirstName LIKE '%a'

(d) SELECT * FROM Students WHERE FirstName ='%a%'

38. The HAVING clause does which of the following?

(a) Acts EXACTLY like WHERE clause

(b) Acts like a WHERE clause but is used for columns rather than groups

(c) Acts like a WHERE clause but is used form groups rather than rows

(d) Acts like a WHERE clause but is used for rows rather than columns.

39. Which clause is used with "aggregate functions"?

(a) GROUP BY (b) SELECT

(c) WHERE (d) Both (a) and (b)

40. To open a connector to MySql database, which statement is used to connect with mysql?

(a) Connector (b) Connect

(c) password (d) username

41. If column "Marks" contains the data set {25, 35, 25, 35, 38},

What will be the output after the execution of the given query?

SELECT MARKS (DISTINCT) FROM STUDENTS;

(a) 25. 35. 25. 35. 38

(b) 25, 25, 35, 35

(c) 25, 35, 38

(d) 25, 25, 35, 35

42. Which connector is used for linking the database with Python code?

(a) MySQL-connector

(b) YesSQL: connector

(c) PostSQL: connector

(d) None of the above

43. If column "Salary" contains the data set {1000, 15000, 25000, 10000, 15000},

What will be the output after the execution of the given query?

SELECT SUM (DISTINCT SALARY) FROM EMPLOYEE;

(a) 75000 (b) 25000

(c) 10000 (d) 50000

44. SQL applies conditions on the groups through _____ clause after groups have been formed,

(a) Group by (b) With

(c) Where (d) Having

45. To execute all the rows from the result set, which method is used?

(a) fetchall (b) fetchone

(c) fetchmany (d) none of the above

46. What is the meaning of "HAVING" clause is SELECT query?

(a) To filter out the summary groups

(b) To filter out the column groups

(c) To filter out the row and column values

(d) None of the mentioned

47. Which of the following queries contains an error?

(a) Select * from emp where empid = 10003;

(b) Select empid from emp where empid = 10006;

(c) Select empid from emp;

(d) Select empid where empid=1009 and lastname='GUPTA';

48. Which operator tests column for the absence of data (i.e., NULL value) ?

(a) EXISTS operator (b) NOT operator

(c) IS operator (d) None of these

49. Consider the following query:

SELECT name FROM class WHERE subject_____NULL;

Which comparison operator may be used to fill the blank space in above query?

(a) = (b) LIKE

(c) IS/IS Not (d) if

50. Which SQL function is used to count the number of rows in a SQL query?

(a) COUNT () (b) NUMBER ()

(c) SUM () (d) COUNT (*)

51. With SQL, how can you return the number of not null record in the Project field of "Students" table?

(a) SELECT COUNT (Project) FROM Students

(b) SELECT COLUMNS (Project) FROM Students

(c) SELECT COLUMNS (*) FROM Students

(d) SELECT COUNT (*) FROM Students

52. Which of the following is not an aggregate function?

(a) Avg (b) Sum

(c) With (d) Min

53. All aggregate functions except ____ ignore null values in their input collection.

(a) Count (attribute) (b) Count (*)

(c) Avg (d) Sum

54. Which of the following group functions ignore NULL values?

(a) MAX (b) COUNT

(c) SUM (d) All of the above

55. What will be the order of the data being sorted after the execution of given query SELECT * FROM STUDENT ORDER BY ROLL_NO;

(a) Custom Sort (b) Descending

(c) Ascending (d) None of the above

56. Where and Having clauses can be used interchangeably in SELECT queries?

(a) True (b) False

(c) Only in views (d) With order by

57. A _____ is property of the entire relation, which ensures through its value that each tuple is unique in a relation.

(a) Rows (b) Key

(c) Attribute (d) fields

58. The operation whose result contains all pairs of tuples from the two relations, regardless of whether their attribute values match.

(a) Join (b) Cartesian product

(c) Intersection (d) Set difference

59. Consider following SQL statement. What type of statement is this? CREATE TABLE employee (name VARCHAR, id INTEGER)

(a) DML (b) DDL

(c) DCL (d) Integrity constraint

60. The pattern '____' matches any string of ____ three character. '____%' matches any string of ____ three characters.

(a) Atleast, Exactly (b) Exactly, Atleast

(c) Atleast, All (d) All, Exactly

ANSWER KEYS

1	(a)	13	(c)	25	(a)	37	(c)	49	(c)
2	(d)	14	(b)	26	(b)	38	(c)	50	(d)
3	(a)	15	(a)	27	(a)	39	(a)	51	(a)
4	(a)	16	(a)	28	(b)	40	(b)	52	(c)
5	(c)	17	(d)	29	(b)	41	(c)	53	(b)
6	(b)	18	(a)	30	(d)	42	(a)	54	(d)
7	(d)	19	(a)	31	(c)	43	(d)	55	(c)
8	(a)	20	(a)	32	(b)	44	(d)	56	(b)
9	(c)	21	(b)	33	(a)	45	(a)	57	(b)
10	(c)	22	(d)	34	(d)	46	(a)	58	(b)
11	(d)	23	(a)	35	(c)	47	(d)	59	(b)
12	(a)	24	(b)	36	(c)	48	(c)	60	(b)

SET - II

1. The degree of a relation is the number of _____ it contains.

(a) Records (b) Keys

(c) Attributes (d) Relations

2. In database system _____ key is used to identify tuples uniquely in a relation.

(a) Primary key (b) Secondary key

(c) Internal key (d) Foreign key

3. The Cardinality of a relation is the number of _____ it contains.

(a) Records (b) Keys

(c) Attributes (d) Relations

4. A _____is the reference key between two tables.

(a) Primary key (b) Candidate key

(c) Foreign key (d) Super key

5. COMMIT & ROLLBACK are _____ statements.

(a) DDL (b) DML

(c) DCL (d) TCL

6. GRANT and REVOKE are _____ statements.

(a) DDL (b) DML

(c) DCL (d) TCL

7. The SYSDATE () function returns the current date and time in the format _____.

(a) YY-MM-DD HH:MM:SS

(b) DD-MM-YYYY HH:MM:SS

(c) YYYY-MM-DD HH:MM:SS

(d) None of these

8. Types of SQL Commands are -

(a) DDL (b) DML

(c) DCL (d) All of the above

9. Full form of DDL is -

(a) Data Describe Language

(b) Definition Data Language

(c) Data Definition Language

(d) Data Distinct Language

10. Commands that comes under DDL is/are -

(a) CREATE (b) DROP

(c) TRUNCATE (d) All of the above

11. Full form of DML is -

(a) Data Multiplication Language

(b) Data Manipulation Language

(c) Data Modify Language

(d) Data Mapping Language

12. Which of the following is/are TRUE about DDL command?

(a) Our data is stored in a table that is described by the schema, thus DDL commands deal with the schema.

(b) With the DDL commands, any structural changes can be made to the table, including creation, deletion, and alteration.

(c) Both (a) and (b)

(d) None of the above

13. Command that comes under DML is/are -

(a) ROLLBACK (b) GRANT

(c) UPDATE (d) All of the above

14. Select the correct statement.

(a) With the DDL commands, any structural changes can be made to the table, including creation, deletion and alteration.

(b) With the DML commands, any structural changes can be made to the table, including creation, deletion, and alteration.

(c) With the DCL commands, any structural changes can be made to the table, including creation, deletion, and alteration.

(d) With the TCL commands, any structural changes can be made to the table, including creation, deletion, and alteration.

15. Full form of DCL is -

(a) Data Control Language

(b) Data Commit Language

(c) Data Common Language

(d) Data Concatenate Language

16. Command that comes under DCL is/are -

(a) GRANT (b) REVOKE

(c) Both (a) and (b) (d) None of the above

17. Full form of TCL is -

(a) Transaction Common Language

(b) Transaction Commit Language

(c) Transaction Concatenate Language

(d) Transaction Control Language

18. Commands that come under TCL is/are -

(a) COMMIT (b) ROLLBACK

(c) SAVEPOINT (d) All of the above

19. What is TRUE about SAVEPOINT?

(a) Following the completion of a transaction, it must be executed to save all the operations performed in the transaction.

(b) A transaction can be rolled back to its last saved state.

(c) A specific part of a transaction can be given a name.

(d) None of the above

20. Following the completion of a transaction, it must be executed to save all the operations performed in the transaction. Here we are talking about which command?

(a) REVOKE (b) COMMIT

(c) ROLLBACK (d) SAVE

21. Difference between GRAND & REVOKE command is/are?

(a) The GRANT command can be used to grant a user access to databases and tables whereas the REVOKE command can be used to revoke all access privileges already assigned to the user.

(b) The REVOKE command can be used to grant a user access to databases and tables whereas The GRANT command can be used to revoke all access privileges already assigned to the user.

(c) A transaction can be rolled back to its last saved state.

(d) None of the above

22. Which of the following statement(s) is/are TRUE about DCL?

(a) The DCL commands in SQL allow us to control which users have access to the data stored in SQL tables.

(b) There will be certain privileges that each user has; consequently, the data can be accessed by them.

(c) The DCL commands in SQL allow us to grant privileges to a user on the SQL database and its table(s), or revoke privileges that have already been granted.

(d) All of the above

23. The table records can be retrieved using which command?

(a) RETRIEVE (b) SELECT

(c) CREATE (d) ALTER

24. Which command use to delete data from a table?

(a) REMOVE (b) DELETE

(c) DROP (d) None of these

25. Which command is use to delete a table?

(a) REMOVE (b) DELETE

(c) DROP (d) None of these

26. Which of the following is TRUE about TCL?

(a) Transactions can be saved to the database and rolled back with the help of TCL commands in SQL.

(b) There will be certain privileges that each user has; consequently, the data can be accessed by them using TCL.

(c) Our data is stored in a table that is described by the schema, thus TCL commands deal with the schema.

(d) SQL TCL commands can be used to perform any kind of retrieval or manipulation of the data present in SQL tables.

27. Which is/are the OPTIONAL Clause in SELECT statement?

(a) WHERE (b) ORDER BY

(c) HAVING (d) All of these

28. Which statement is TRUE about the WHERE Clause?

(a) In order to retrieve rows, WHERE Clause is used.

(b) In order to group the rows, WHERE Clause is used.

(c) In order to select the defined groups, WHERE Clause is used.

(d) In order to return the rows, WHERE Clause is used.

29. Which statement is TRUE about the GROUP BY Clause?

(a) In order to retrieve rows, GROUP BY Clause is used.

(b) In order to group the rows that share the same property, GROUP BY Clause is used.

(c) In order to select the defined groups, GROUP BY Clause is used.

(d) In order to return the rows, GROUP BY Clause is used.

30. Which statement is TRUE about the HAVING Clause?

(a) In order to group the rows, HAVING Clause is used.

(b) In order to return the rows, HAVING Clause is used.

(c) In order to select the defined groups by the GROUP BY Clause, HAVING Clause is used.

(d) None of the above

31. Which statement is TRUE about the ORDER BY Clause?

(a) In order to return the rows in a specific order, ORDER BY Clause is used.

(b) In order to group the rows, ORDER BY Clause is used.

(c) In order to select the defined groups, ORDER BY Clause is used.

(d) None of the above

32. Which of the following clause cannot be optional in SQL SELECT Statement?

(a) WHERE (b) GROUP BY

(c) ORDER BY (d) None of the above

33. Which of the following clause is optional in SQL SELECT Statement?

(a) SELECT (b) FROM

(c) HAVING (d) None of the above

34. Which clause is used to retrieve a unique element from the table?

(a) SELECT UNIQUE

(b) SELECT DISTINCT

(c) Both (a) and (b)

(d) None of the above

35. What is the functionality of SQL COUNT?

(a) It returns the number of record of table

(b) It returns the number of record of database

(c) It returns the no of record of row

(d) It returns the no of record of column

36. In SQL SELECT COUNT, one needs to specify the -

(a) Column Name (b) Row Name

(c) Table Name (d) None of the above

37. Using the SQL first() function, one can return the ____ value of the selected column.

(a) First (b) Second

(c) Third (d) Last

38. Which function combines the two different columns?

(a) ADD (b) MERGE

(c) CONCAT (d) None of the above

39. What is the difference between HAVING and WHERE clause?

(a) HAVING clause is used in column operation whereas WHERE clause is used in row operation.

(b) HAVING clause is post-filter whereas WHERE clause is pre-filter.

(c) HAVING clause filters the groups whereas WHERE clauses filter the single record of the table.

(d) All of the above

40. What is the difference between MIN and MAX function?

(a) MIN function is used to show the minimum data and MAX function is used to show the maximum data.

(b) MIN function is used to show the maximum data and MAX function is used to show the minimum data.

(c) Both of the above

(d) None of the above

41. In order to sort the records according to the columns, which clause is used?

(a) HAVING (b) GROUP BY

(c) ORDER BY (d) None of the above

42. By default, sorting by ORDER BY clause is done in which order?

(a) Ascending (b) Descending

(c) Both (a) and (b) (d) None of these

43. What is the keyword of the Ascending and Descending?

(a) ASCE, DESC (b) ASC, DES

(c) ASCE, DES (d) ASC, DESC

44. SQL INSERT is used to insert a -

(a) Single or Multiple records

(b) Single or Multiple databases

(c) Single or Multiple tables

(d) None of the above

45. In order to insert a row directly in the table, which command is used?

(a) INSERT IN

(b) INSERT INSIDE

(c) INSERT UNDER

(d) INSERT INTO

46. What is the clause to delete all rows from the table?

(a) SQL DELETE ALL ROWS Table_Name;

(b) SQL DELETE ROWS Table_Name;

(c) DELETE FROM ALL ROWS Table_Name;

(d) DELETE FROM Table_Name;

47. In order to delete duplicate rows from the table, which keyword is used?

(a) DELETE (b) DISTINCT

(c) FROM (d) WHERE

48. In order to delete the database, which keyword is used?

(a) DROP (b) DELETE

(c) ALTER (d) None of the above

49. Which SQL function is used to count the number of rows in a SQL query?

(a) COUNT () (b) NUMBER ()

(c) SUM () (d) COUNT (*)

50. Which SQL keyword is used to retrieve a maximum value?

(a) MOST (b) TOP

(c) MAX (d) UPPER

51. ___ is not a category of SQL command.

(a) TCL (b) SCL

(c) DCL (d) DDL

52. If you don't specify ASC or DESC after a SQL ORDER BY clause, the following is used by default ____

(a) ASC (b) DESC

(c) There is no default value

(d) None of the mentioned

53. Which of the following statement is true?

(a) DELETE does not free the space containing the table and TRUNCATE free the space containing the table

(b) Both DELETE and TRUNCATE free the space containing the table

(c) Both DELETE and TRUNCATE does not free the space containing the table

(d) DELETE free the space containing the table and TRUNCATE does not free the space containing the table

54. What is the purpose of the SQL AS clause?

(a) The AS SQL clause is used to change the name of a column in the result set or to assign a name to a derived column

(b) The AS clause is used with the JOIN clause only

(c) The AS clause defines a search condition

(d) All of the mentioned

55. Which of the following is a legal expression in SQL?

(a) SELECT NULL FROM SALES;

(b) SELECT NAME FROM SALES;

(c) SELECT * FROM SALES WHEN PRICE = NULL;

(d) SELECT # FROM SALES;

56. DCL provides commands to perform actions like

(a) Change the structure of Tables

(b) Insert, Update or Delete Records and Values

(c) Authorizing Access and other control over Database

(d) None of Above

57. Which of the following command makes the updates performed by the transaction permanent in the database?

(a) ROLLBACK (b) COMMIT

(c) TRUNCATE (d) DELETE

ANSWER KEYS

1. (c)	13. (c)	25. (c)	37. (a)	49. (d)
2. (a)	14. (a)	26. (a)	38. (c)	50. (c)
3. (a)	15. (a)	27. (d)	39. (d)	51. (b)
4. (c)	16. (c)	28. (a)	40. (a)	52. (a)
5. (d)	17. (d)	29. (b)	41. (c)	53. (a)
6. (c)	18. (d)	30. (c)	42. (a)	54. (a)
7. (c)	19. (c)	31. (a)	43. (d)	55. (b)
8. (d)	20. (b)	32. (d)	44. (a)	56. (c)
9. (c)	21. (a)	33. (c)	45. (d)	57. (b)
10. (d)	22. (d)	34. (c)	46. (d)	
11. (b)	23. (b)	35. (a)	47. (b)	
12. (c)	24. (b)	36. (a)	48. (a)	

Fill in the Blanks

1. SQL stands for _____ Query Language.
2. A connectivity package such as _____ must be imported before writing database connectivity Python code.
3. The SQL keyword_____ is used to specify the table(s) that contains the data to be retrieved.
4. To remove duplicate rows from the result of a query, specify the SQL qualifier _____ in select list.
5. To obtain all columns, use a(n) _____ instead of listing all the column names in the select list.
6. The SQL _____ clause contains the condition that specifies which rows are to the selected.
7. To sort the rows of the result table, the _____ clause is specified.
8. Columns can be sorted in descending sequence by using the SQL keyword ____
9. When two conditions must both be true for the rows to be selected, the conditions are separated by the SQL keyword _____
10. To refer to a set of values needed for a condition, we can use the SQL operation _____
11. To exclude one or more values (a list of values) using a condition, the SQL keyword _____ _____ should be used.
12. The SQL keyword _____ is used in SQL expressions to select based on patterns.
13. The SQL built-in function _____ totals values in numeric columns.
14. The SQL built-in function _____ obtains the largest value in a numeric column.
15. The SQL built-in function _____ obtains the smallest value in a numeric column.
16. The SQL built-in function _____ computes the number of rows in a table.
17. The SELECT clause _____ is used to collect those rows that have the same value in a specified column.
18. _____ method returns the result set in the form of tuples containing the records or rows returned by the sql table.
19. A session between the application program and the database is called _____
20. A _____ query is used to check if data has been added to the table or not.
21. The _____ function works with data of multiple rows at a time and returns aggregated value.
22. The _____ clause lets you arrange the result set in the order of single column, multiple column and custom sort order too.
23. To specify filtering condition for groups, the _____ clause is used in MYSQL.
24. By default, the ORDER BY clauses sorts the result set in the _____ order.
25. To sort the result set in descending order, _____ keyword is used with ORDER BY.

ANSWER KEYS

1. Structured
2. Mysql.connector
3. FROM
4. DISTINCT
5. Asterisk (*)
6. WHERE
7. ORDER BY
8. DESC
9. AND
10. IN
11. NOT IN
12. LIKE
13. SUM
14. MAX
15. MIN
16. COUNT
17. GROUP BY
18. Fetchall()
19. Connection
20. Select
21. Group/row/ aggregation function
22. ORDER BY
23. Having
24. Ascending
25. DESC

True/False Questions

1. The condition in a WHERE clause in a SELECT query can refer to only one value
2. SQL provides the AS keyword, which can be used to assign meaningful column names to the results of queries using the SQL built-in functions.
3. The rows of the result relation produced by a SELECT statement can be sorted but only by one column.
4. SQL is a programming language.
5. SELECT DISTINCT is used if a user wishes to see duplicate columns in a query.
6. The HAVING clause acts like a WHERE clause, but it identifies groups that meet a criterion, rather than rows.
7. The qualifier DISTINCT must be used in an SQL statement when we want to Eliminate duplicate rows.
8. DISTINCT and its counterpart, ALL, can be used more than once in a SELECT statement.
9. DISTINCT and its counterpart, ALL, can be used together on single field in a SELECT statement.
10. SUM, AVG, MIN and MAX can only be used with numeric columns
11. The SQL statement: SELECT salary + Comm AS Total FROM Emp; adds two fields salary and comm from each row together and lists the results in a column named Total.
12. ORDER BY can be combined with the SELECT statement.
13. Data manipulation language (DML) commands are used to define a database, including creating, altering, and dropping tables and establishing constraints.
14. The keyword LIKE can be used in a WHERE clause to refer to a range of values.
15. The SQL keyword GROUP BY instructs the DBMS to group together those rows that have the same value in a column.
16. The keyword BETWEEN can be used in a WHERE clause to refer to a range of values.
17. Read operation on any table means to fetch some useful information from the table.
18. Use fetchall() method to retrieve only one value from a database table.
19. Row count is a read-only attribute.
20. To disconnect database connection, use connect () method.
21. Update statement is used to insert data into the table.
22. The ORDER BY clause combines all those records that have identical values in a particular field or a group of fields.

23. The WHERE clause is used to specify filtering conditions for groups.

24. DISTINCT option causes a group function to consider only the unique values of the argument expression. 25. By default, ORDER BY clause sorts the result set in descending order.

26. COUNT () function ignores duplicate and null values while counting the records.

27. The return value of MAX () function is a numeric value.

28. Multiple row function is also known as scalar function

29. SUM () function is used to count the total number of records in a table.

30. Argument type of AVG () function can be numeric or string data type.

ANSWER KEYS

1. False
2. True
3. False
4. False
5. False
6. True
7. True
8. False
9. False
10. True
11. True
12. True
13. False
14. False
15. True
16. True
17. True
18. False
19. True
20. False
21. False
22. False
23. False
24. True
25. False
26. True
27. True
28. False
29. False
30. False

Very Short Answer Type Questions (1 mark)

1. Name the command/clause which is used to display the records in ascending or descending order.
2. Give example of any two DML commands.
3. What is the purpose of SQL?
4. What is primary key?
5. Which command is used to display a list of already existing tables?
6. Which command is used to change the structure of table?
7. Which command is used to change the data of the table?
8. Which command is used to delete data of the table?
9. Which command delete the structure of table?
10. Identify the DDL and DML commands from the following: Create, Delete
11. Which clause is used with aggregate functions? (Group by/ Where)
12. What do you mean by candidate key?
13. Correct the error in the following query. Select * from RECORD where Rname = %math%;
14. What is max () function in SQL?
15. What do you mean by degree and cardinality of table?
16. Expand DDL and DML
17. Which command is used to increase the salary of workers in table salary? (Update / Alter)
18. Name the command used to see the structure of table.
19. Which aggregate function is used to find sum of column in a table?
20. What is the difference between having and where clause?
21. Name an aggregate function in SQL which return the average of numeric values.
22. What is the use of "like" in SQL?
23. Correct the following statement: Delete table data;
24. What do you mean by aggregate function?
25. Write two wild card characters which are used with like operator?
26. Duplication of record is called _____
27. What is the difference between char and varchar?

ANSWER KEYS

1. order by clause
2. Insert, Delete
3. SQL is structured query language. It is a standard language of all the RDBMS
4. A field which is unique for each and every record in table is called primary key.
5. show tables;
6. Alter
7. Update
8. Delete
9. Drop
10. Create -DDL and Delete --DML
11. Group by
12. Those fields which can act as primary key is called candidate key
13. Select * from RECORD where Rname like %math%;
14. It returns the largest value from a particular column.
15. Number of columns in table is called degree. Number of rows in a table is called cardinality.
16. DDL - Data Definition Language, DML - Data Manipulation Language.
17. Update
18. Desc
19. sum()
20. Having clause can be used with group by clause while where clause can be used without group by clause.
21. avg()
22. "Like" operator is used to match a particular pattern in a particular column in SQL.
23. Delete from data
24. A function which perform calculation on multiple values and return single value
25. % and underscore(_)
26. Redundancy
27. Char is fixed length data type and varchar is variable length data type

Short Answer Type Questions (2 marks)

1. What is the difference between cardinality and degree?
2. Differentiate between WHERE and HAVING clause.
3. Define Primary Key of a relation in SQL. Give an Example using a dummy table.
4. Consider the following Python code is written to access the record of CODE passed to function: Complete the missing statements:

   def Search(eno):

   #Assume basic setup import, connection and cursor is created

   query="select * from emp where empno=_____".format(eno)

   mycursor.execute(query)

   results = mycursor._____

   print(results)
5. Differentiate between DDL and DML with one Example each.
6. Answer the following:
   i) Name the package for connecting Python with MySQL database.
   ii) What is the purpose of cursor object?
7. What do you mean by domain of an attribute in DBMS? Explain with an example.
8. Differentiate between fetchone() and fetchmany() methods with suitable examples.
9. What is Constraint? Give example of any two constraints.
10. Write the steps to perform an Insert query in database connectivity application.

    Table 'student' values are rollno, name, age (10,'Ashok',26)
11. Define Candidate Key and Alternate Key with suitable examples from a table containing some meaningful data.
12. Define RDBMS. Name any two RDBMS software.
13. What is the purpose of the following clauses in a select statement?
    i) ORDER BY ii) HAVING
14. Write SQL queries for the following:
    i. Create the table Product with appropriate data types and constraints.
    ii. Identify the primary key in Product.
15. Write any two differences between Single_ row functions and Aggregate functions.

ANSWER KEYS

1. **Degree -** The number of attributes or columns in a relation is called the Degree of the relation.

   Cardinality - The number of tuples/ rows in a relation is called the Cardinality of the relation.

2. WHERE clause is used to select particular rows that satisfy a condition whereas HAVING clause is used in connection with the aggregate function, GROUP BY clause.

   For ex. -

   select * from student where marks > 75;

   This statement shall display the records for all the students who have scored more than 75 marks. On the contrary, the statement - select * from student group by stream having marks > 75; shall display the records of all the students grouped together on the basis of stream but only for those students who have scored marks more than 75.

3. Primary Key- one or more attribute of a relation used to uniquely identify each and every tuple in the relation. For Example : In the below Table Student, RollNo can be the Primary Key

RollNo	Name	Marks
01	Aru	95
02	Rubi	85

4. { } and fetchone()

5. DDL- Data definition language. Consists of commands used to modify the metadata of a table. For Example- create table, alter table, drop table DML-Data manipulation language. Consist of commands used to modify the data of a table. For Example- insert, delete, update

6. i) import mysql.connector

   ii) It is the object that helps to execute the SQL queries and facilitate row by row processing of records in the resultset.

7. Domain of an attribute is the set of values from which a value may come in a column. E.g. Domain of section field may be (A,B,C,D).

8. fetchone() is used to retrieve one record at a time but fetchmany(n) will fetch n records at a time from the table in the form of a tuple.

9. Constraints are the checking condition which we apply on table to ensure the correctness of data . Example primary key, not null, default, unique etc

10.
```
import mysql.connector as mydb
conn=mydb.connect(host="localhost",
user="root", passwd="1234")
cur=conn.cursor()
cur.execute("INSERT INTO student
values(10,'Ashok',26);")
cur.commit()
```

11. A table may have more than one such attribute/group of attributes that identifies a tuple uniquely, all such attribute(s) are known as Candidate Keys. All the candidate key except primary key are called Alternate key.

    Table: Employee (empno, aadhar_no, voter_id, ename, deptno, sal, city)

    In the above table Employee: empno, aadhar_no, voter_id all are candidate key. If we define empno as primary key then remaining candidate keys will be alternate key.

12. RDBMS stands for Relational Database Management System. It is a program that offers commands to create, update, and manage the data with multiple tables.

    Examples of RDBMS are 1. MySQL 2. Oracle 3. Microsoft SQL Server.

13. i) Order By : This clause is used to arrange the records in ascending or descending order.

    Example: Select * from book order by price;

    ii) Having : HAVING Clause in SQL is used to specify conditions on the rows with GROUP BY clause.

    Example: Select sum(price) from book group by (subject) having price > 100;

14. i) Create table product (Pcode varchar(3) not null Primary key, PName Varchar(20), UPrice int(4),

    Manufacture Varchar(20));

    ii) Pcode is primary key.

15.

Single row Functions	Multiple row functions/ Aggregate Functions
It operates on a single row at a time It returns one result per row It can be used in Select, Where, and Order by clause. Math, String and Date functions are examples of single row functions	It operates on multiple rows. It returns one result for multiple rows It can be used in the select clause only. Max(), Min(), Avg(), Sum(), Count() and Count(*) are examples of multiple row functions

Long Type Questions

1. What is database? What are the advantages and disadvantages of using database?
2. What is Key? Explain primary key, candidate key, alternate key and foreign key with example.
3. What is SQL? What are different categories of commands available in SQL?
4. What is SQL? Discuss DCL and DML commands with examples
5. Differentiate between DDL and DML commands.
6. Differentiate between CHAR and VARCHAR data types.
7. (a) Which key word is used to sort the records of a table in descending order?
   (b) Which command is used to modify the records of the table?
   (c) Which clause is used to remove the duplicate rows of the table?
   (d) Differentiate between Primary key and Candidate key,
   (e) Differentiate between Degree and Cardinality key.
8. Explain Aggregate functions of SQL with examples.
9. Discuss connecting SQL with Python.
10. (a) Write two examples of DBMS software.
    (b) What is meant by NULL value in MySQL?
    (c) Table 'Club' has 4 rows and 3 columns. Table 'Member' has 2 rows and 5 columns. What will be the cardinality of the Cartesian product of them?
11. The SQL SELECT provides clauses for sorting data and for summarizing results. Write the names of clauses for these.
12. What are aggregate functions? What is their use? Give some examples.
13. What are different types of SQL functions?
14. What is the significance of GROUP BY clause in a SQL query?
15. What type of functions can you use with GROUP BY and HAVING clauses?
16. What is the difference between a WHERE clause and a HAVING clause of SQL SELECT statement?

PRACTICE SET

PART - A

Select the most appropriate option out of the options given for each question.

1. If a user tries to remove an element from empty Stack, it is called

(a) Empty Collection

(b) Overflow

(c) Underflow

(d) Garbage Collection

2. Which of the following is application of Stack?

(a) One Way Traffic

(b) A line of ticket seeking people

(c) Reversing the order of items

(d) Printer shared among four computers

3. Consider the following operation performed on a stack of size 5.

Push(1); Pop();Push(2);Push(3); Pop(); Push(4);Pop();Pop();Push(5);

After the completion of all operation, the numbers of elements present in stack are:

(a) 1 (b) 2

(c) 3 (d) 4

4. Network in which every computer is capable of playing the role of a client, or a server or both at same time is called

(a) local area network

(b) peer-to-peer network

(c) dedicated server network

(d) wide area network

5. In computer, converting a digital signal in to an analog signal is called

(a) modulation

(b) demodulation

(c) conversion

(d) transformation

6. Which of the following keywords will you use in the following query to display the unique values of the column dept_name?

(a) all (b) from

(c) distinct (d) unique

7. The pattern '___' matches any string of _____ three characters. '___%' matches and string of _____ three characters.

(a) Atleast, Exactly

(b) Exactly, Atleast

(c) Atleast, All

(d) All, Exactly

8. All aggregate functions except _____ ignore null values in their input collection.

(a) count(attribute)

(b) count(*)

(c) avg

(d) none of these

PART - B

SECTION - 1

9. Expand the following-

   i. SMTP ii. DHCP

   iii. HTTP iv. TCP

10. Define Web-Hosting?

    OR

    Give difference between Video Conferencing and Chat.

11. Give difference between CHAR and VARCHAR. Give Example.

12. What do you understand by the terms Candidate Key? What is Cardinality?

13. The SQL SELECT provides clauses for sorting data and for grouping results.

    Write the names of clauses for these.

SECTION - 2

14. Each node of a Stack contains the following information: PINCODE and NAME of city. Write a PUSHCITY() function to implement push on stack like operation to add a node to Stack.

    OR

    Write a POPCITY() function to implement pop from stack like operation to remove a node (same as above) from Stack.

15. A department is considering maintaining their worker data using SQL to stroe the data. As a Database Administrator, Karan has decided that: Name of the database - Department Name of the table -Worker The attributes of Worker are as follows:
    WORKER_ID - CHARACTER OF SIZE 3
    FIRST_NAME-CHARACTER OF SIZE 10
    LAST_NAME - CHARACTER OF SIZE 10
    SALARY - NUMERIC
    JOINING_DATE - DATE

    (i) Karan wants to remove all the data from table WORKER from the database department.

    Which command will he use from the following?

    a) DELETE FROM WORKER;

    b) DROP TABLE WORKER;

    c) DROP DATABASE Department;

    d) DELETE * FROM WORKER;

    (ii) Identify the attribute best suitable to be declared as a primary key.

    (iii) Karan wants to increase the size of the FIRST_NAME column from 10 to 20 characters.

    Write an appropriate query to change the size.

    (iv) Write a query to display the structure of the table Worker, i.e. name of the attribute and their respective data types.

ANSWER KEYS

Part-A

1. c) UNDERFLOW
2. c) Reversing the order of items 1
3. a) 1
4 b) peer-to-peer network
5. a) modulation
6. c) distinct
7. b) Exactly, Atleast
8. a) count(attribute)

Part - B

9. Expand the following-

i. SIMPLE MAIL TRANSFER PROTOCOL

ii. DYNAMIC HOST CONFIGURATION PROTOCOL

iii. HYPERTEXT TRANSFER PROTOCOL

iv. TRANSMISSION CONTROL PROTOCOL

10. When a hosting provider allocates space on a web server for a website to store its files, they are hosting a website. OR

Video Conferencing Chat Audio as well Visuals are shared only text communicated. High Bandwidth required Works with low bandwidth also.

11. CHAR is used to occupy fixed memory irrespective of the actual values but VARCHAR uses only that much memory which is used actually for the entered values. E.g. CHAR(10) will occupy always 10 bytes in memory no matter how many characters are used in values. But VARCHAR will uses only that much bytes of memory whose values are passed.

12. CANDIDATE KEY A Candidate key is the one that is capable of becoming primary key. CARDINALITY OF A RELATION Cardinality of a relation represents number of rows in the relation.

13. ORDER BY for sorting GROUP BY for grouping data

14.
```
city=[]
def PUSHCITY(cityname,pincode):
city.insert(0,[cityname,pincode])
```
OR
```
city=[]
def POPCITY():
if len(city)==0:
print("Underflow")
return None
return city.pop()
```

15. (i) d) DELETE * FROM WORKER;

(ii) WORKER_ID

(iii) ALTER TABLE WORKER MODIFY FIRST_NAME VARCHAR(20)

(iv) DESC WORKER/DESCRIBE WORKER

Sample Question Paper Class: XII

Session : 2021-22 Computer Science (Code 083)
(Theory: Term-1)

Maximum Marks: 35 **Time Allowed: 90 Minutes**

General Instructions:

- The question paper is divided into 3 Sections - A, B and C.
- Section A, consist of 25 Questions (1-25). Attempt any 20 questions.
- Section B, consist of 24 Questions (26-49). Attempt any 20 questions.
- Section C, consist of 6 case study based Questions (50-55). Attempt any 5 questions.
- All questions carry equal marks.

Section-A

This section consists of 25 Questions (1 to 25). Attempt any 20 questions from this section. Choose the best possible option.

1. Find the invalid identifier from the following

(a) none (b) address
(c) name (d) pass

2 Consider a declaration L = (1, 'Python', '3.14'). Which of the following represents the data type of L?

(a) list (b) tuple
(c) dictionary (d) string

3. Given a Tuple tup1= (10, 20, 30, 40, 50, 60, 70, 80, 90).

What will be the output of print (tup1 [3:7:2])?

(a) (40,50,60,70,80) (b) (40,50,60,70)
(c) (40,60) (d) (40,60)

4. Which of the following option is not correct?

(a) if we try to read a text file that does not exist, an error occurs.
(b) if we try to read a text file that does not exist, the file gets created.
(c) if we try to write on a text file that does not exist, no error occurs.
(d) if we try to write on a text file that does not exist, the file gets created.

5. Which of the following options can be used to read the first line of a text file Myfile.txt?

(a) myfile = open('Myfile.txt'); myfile.read()
(b) myfile = open('Myfile.txt','r'); myfile.read(n)
(c) myfile = open('Myfile.txt'); myfile.readline()
(d) myfile = open('Myfile.txt'); myfile.readlines()

6. Assume that the position of the file pointer is at the beginning of 3rd line in a text file. Which of the following option can be used to read all the remaining lines?

(a) myfile.read()
(b) myfile.read(n)
(c) myfile.readline()
(d) myfile.readlines()

7. A text file student.txt is stored in the storage device. Identify the correct option out of the following options to open the file in read mode.

(i) myfile = open('student.txt','rb')
(ii) myfile = open('student.txt','w')
(iii) myfile = open('student.txt','r')
(iv) myfile = open('student.txt')

(a) only i (b) both i and iv
(c) both iii and iv (d) both i and iii

8. **The return type of the input() function is**

(a) string (b) integer
(c) list (d) tuple

9. **Which of the following operator cannot be used with string data type?**

(a) + (b) in
(c) * (d) /

10. **Consider a tuple tup1 = (10, 15, 25, and 30). Identify the statement that will result in an error.**

(a) print(tup1[2]) (b) tup1[2] = 20
(c) print(min(tup1)) (d) print(len(tup1))

11. **Which of the following statement is incorrect in the context of binary files?**

(a) Information is stored in the same format in which the information is held in memory.
(b) No character translation takes place
(c) Every line ends with a new line character
(d) Pickle module is used for reading and writing

12. **What is the significance of the tell() method?**

(a) tells the path of file
(b) tells the current position of the file pointer within the file
(c) tells the end position within the file
(d) checks the existence of a file at the desired location

13. **Which of the following statement is true?**

(a) pickling creates an object from a sequence of bytes
(b) pickling is used for object serialization
(c) pickling is used for object deserialization
(d) pickling is used to manage all types of files in Python

14. **Syntax of seek function in Python is myfile.seek(offset, reference_point) where myfile is the file object. What is the default value of reference_point?**

(a) 0 (b) 1
(c) 2 (d) 3

15. **Which of the following components are part of a function header in Python?**

(a) Function Name
(b) Return Statement
(c) Parameter List
(d) Both a and c

16. **Which of the following function header is correct?**

(a) def cal_si(p=100, r, t=2)
(b) def cal_si(p=100, r=8, t)
(c) def cal_si(p, r=8, t)
(d) def cal_si(p, r=8, t=2)

17. **Which of the following is the correct way to call a function?**

(a) my_func() (b) def my_func()
(c) return my_func (d) call my_func()

18. **Which of the following character acts as default delimiter in a csv file?**

(a) (colon) : (b) (hyphen) -
(c) (comma) , (d) (vertical line) |

19. **Syntax for opening Student.csv file in write mode is myfile = open ("Student.csv","w",newline='').**

What is the importance of newline=''?

(a) A newline gets added to the file

(b) Empty string gets appended to the first line.

(c) Empty string gets appended to all lines.

(d) EOL translation is suppressed

20. What is the correct expansion of CSV files?

(a) Comma Separable Values

(b) Comma Separated Values

(c) Comma Split Values

(d) Comma Separation Values

21. Which of the following is not a function / method of csv module in Python?

(a) read() (b) reader()

(c) writer() (d) writerow()

22. Which one of the following is the default extension of a Python file?

(a) .exe (b) .p++

(c) .py (d) .p

23. Which of the following symbol is used in Python for single line comment?

(a) / (b) /*

(c) // (d) #

24. Which of the following statement opens a binary file record.bin in write mode and writes data from a list lst1 = [1,2,3,4] on the binary file?

a. with open('record.bin','wb') as myfile: pickle.dump(lst1,myfile)

b. with open('record.bin','wb') as myfile: pickle.dump(myfile,lst1)

c. with open('record.bin','wb+') as myfile: pickle.dump(myfile,lst1)

d. with open('record.bin','ab') as myfile: pickle.dump(myfile,lst1)

25. Which of these about a dictionary is false?

a) The values of a dictionary can be accessed using keys

b) The keys of a dictionary can be accessed using values

c) Dictionaries aren't ordered

d) Dictionaries are mutable

Section-B

This section consists of 24 Questions (26 to 49). Attempt any 20 questions.

26. What is the output of following code:

```
T=(100)
print(T*2)
```

(a) Syntax error (b) (200,)

(c) 200 (d) (100,100)

27. Suppose content of 'Myfile.txt' is:

Twinkle twinkle little star
How I wonder what you are
Up above the world so high
Like a diamond in the sky

What will be the output of the following code?

```
myfile = open("Myfile.txt") data =
myfile.readlines() print(len(data))
myfile.close()
```

(a) 3 (b) 4

(c) 5 (d) 6

28. Identify the output of the following Python statements.

```
x = [[10.0, 11.0, 12.0],[13.0, 14.0, 15.0]]
 y = x[1][2]
print(y)
```

(a) 12.0 (b) 13.0

(c) 14.0 (d) 15.0

29. Identify the output of the following Python statements.

```
    x = 2
    while x < 9:
    print(x, end='') x = x + 1
```

(a) 12345678 (b) 123456789

(c) 2345678 (d) 23456789

30. Identify the output of the following Python statements.

```
    b = 1
    for a in range(1, 10, 2):
    b += a + 2
    print(b)
```

(a) 31 (b) 33

(c) 36 (d) 39

31. Identify the output of the following Python statements.

```
lst1 = [10, 15, 20, 25, 30]
lst1.insert( 3, 4)
lst1.insert( 2, 3)
print (lst1[-5])
```

(a) 2 (b) 3

(c) 4 (d) 20

32. Raghav is trying to write a tuple tup1 = (1,2,3,4,5) on a binary file test.bin. Consider the following code written by him.

```
import pickle
tup1 = (1,2,3,4,5)
myfile = open("test.bin",'wb') pickle.
_________          #Statement 1
myfile.close()
```

Identify the missing code in Statement 1.

(a) dump(myfile,tup1)

(b) dump(tup1, myfile)

(c) write(tup1,myfile)

(d) load(myfile,tup1)

33. A binary file employee.dat has following data

Empno	Empname	Salary
101	Anuj	50000
102	Arijita	40000
103	Hanika	30000
104	Firoz	60000
105	Vijaylakshmi	40000

```
def display(eno): f=open("employee.dat","rb")
totSum=0
try:
while True:
R=pickle.load(f) if
R[0]==eno:
_____          #Line1
totSum=totSum+R[2]
except:
    f.close()
print(totSum)
```

When the above mentioned function, display (103) is executed, the output displayed is 190000.

Write appropriate jump statement from the following to obtain the above output.

(a) jump (b) break

(c) continue (d) return

34. What will be the output of the following Python code?

```
def add (num1, num2): sum =
num1 + num2
sum = add(20,30)
print(sum)
```

(a) 50 (b) 0

(c) Null (d) None

35. Evaluate the following expression and identify the correct answer.

```
16 - (4 + 2) * 5 + 2**3 * 4
```

(a) 54 (b) 46

(c) 18 (d0 32

36. What will be the output of the following code?

```
def my_func(var1=100, var2=200): var1+=10
    var2 = var2 - 10 return
    var1+var2
print(my_func(50),my_func())
```

(a) 100 200 (b) 150 300

(c) 250 75 (d) 250 300

37. What will be the output of the following code?

```
value = 50
def display(N): global value value = 25
if N%7==0:
value = value + N else:
value = value - N print(value, end="#")
display(20)
print(value)
```

(a) 50#50 (b) 50#5

(c) 50#30 (d) 5#50#

38. What will be the output of the following code?

```
import random
List=["Delhi","Mumbai","Chennai","Kolkata"]
for y in range(4):
x = random.randint(1,3)
print(List[x],end="#")
```

(a) Delhi#Mumbai#Chennai#Kolkata#

(b) Mumbai#Chennai#Kolkata#Mumbai#

(c) Mumbai# Mumbai #Mumbai # Delhi#

(d) Mumbai# Mumbai #Chennai # Mumbai

39. What is the output of the following code snippet?

```
def ChangeVal(M,N): for i in range(N):
if M[i]%5 == 0:
M[i]//=5 if M[i]%3 == 0:
M[i]//=3 L = [25,8,75,12]
ChangeVal(L,4) for i in L:
print(i,end="#")
```

(a) 5#8#15#4# (b) 5#8#5#4#
(c) 5#8#15#14# (d) 5#18#15#4#

40. Suppose content of 'Myfile.txt' is

Humpty Dumpty sat on a wall
Humpty Dumpty had a great fall
All the king's horses and all the king's men
Couldn't put Humpty together again

What will be the output of the following code?

```
myfile = open("Myfile.txt") record =
myfile.read().split() print(len(record))
 myfile.close()
```

(a) 24 (b) 25
(c) 26 (d) 27

41. Find the output of the following code:

```
Name="PythoN3.1"
R=""
for x in range(len(Name)): if
 Name[x].isupper():
R=R+Name[x].lower()
elif Name[x].islower():
R=R+Name[x].upper() elif
Name[x].isdigit():
R=R+Name[x-1]
else:
R=R+"#"
print(R)
```

(a) pYTHOn##@ (b) pYTHOnN#@
(c) pYTHOn#@ (d) pYTHOnN@#

42. Suppose content of 'Myfile.txt' is

Honesty is the best policy.

What will be the output of the following code?

```
myfile = open("Myfile.txt") x =
 myfile.read() print(len(x))
myfile.close()
```

(a) 5 (b) 25
(c) 26 (d0 27

43. Suppose content of 'Myfile.txt' is

Culture is the widening of the mind and of the spirit.

What will be the output of the following code?

```
myfile = open("Myfile.txt")
  x = myfile.read()
print(y)
y = x.count('the')
myfile.close()
```

(a) 2 (b) 3
(c) 4 (d) 5

44. What will be the output of the following code?

```
x = 3
def myfunc(): global x x+=2
print(x, end=' ')
print(x, end=' ')
myfunc()
print(x, end=' ')
```

(a) 3 3 3 (b) 3 4 5
(c) 3 3 5 (d) 3 5 5

45. Suppose content of 'Myfile.txt' is

Ek Bharat Shreshtha Bharat

What will be the output of the following code?

```
myfile = open("Myfile.txt")
vlist = list("aeiouAEIOU")
vc=0
x = myfile.read()
for y in x:
if(y in vlist):
vc+=1
print(vc)
myfile.close()
```

(a) 6 (b) 7

(c) 8 (d) 9

46. Suppose content of 'Myfile.txt' is

Twinkle twinkle little star

How I wonder what you are

Up above the world so high

Like a diamond in the sky

Twinkle twinkle little star

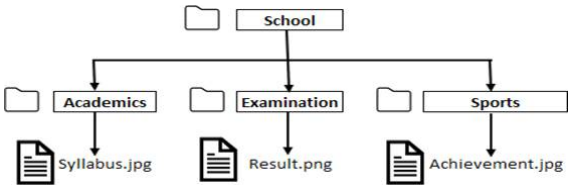
What will be the output of the following code?

```
myfile = open("Myfile.txt")
line_count = 0
 data = myfile.readlines()
 for line in data:
    if line[0] == 'T':
    line_count += 1
print(line_count)
myfile.close()
```

(a) 2 (b) 3

(c) 4 (d) 5

47. Consider the following directory structure.



Suppose root directory (School) and present working directory are the same. What will be the absolute path of the file Syllabus.jpg?

(a) School/syllabus.jpg

(b) School/Academics/syllabus.jpg

(c) School/Academics/../syllabus.jpg

(d) School/Examination/syllabus.jpg

48. Assume the content of text file, 'student.txt' is:

Arjun Kumar

Ismail Khan

Joseph B

Hanika Kiran

What will be the data type of data_rec?

```
myfile = open("Myfile.txt")
data_rec = myfile.readlines()
myfile.close()
```

(a) string (b) list

(c) tuple (d) dictionary

49. What will be the output of the following code?

```
tup1 = (1,2,[1,2],3)
tup1[2][1]=3.14
print(tup1)
```

(a) (1,2,[3.14,2],3) (b) (1,2,[1,3.14],3)

(c) (1,2,[1,2],3.14) (d) Error Message

Section-C

Case Study based Questions

This section consists of 6 Questions (50 -55) Attempt any 5 questions.

Rohit, a student of class 12, is learning CSV File Module in Python. During examination, he has been assigned an incomplete python code (shown below) to create a CSV File 'Student.csv' (content shown below). Help him in completing the code which creates the desired CSV File.

CSV File

1,AKSHAY,XII,A

2,ABHISHEK,XII,A

3,ARVIND,XII,A

4,RAVI,XII,A

5,ASHISH,XII,A

Incomplete Code

```
import _____                          #Statement-1
fh = open(_____,_____, newline='')#Statement-2
stuwriter = csv._____                 #Statement-3
data = [ ]
header = ['ROLL_NO', 'NAME', 'CLASS', 'SECTION']
data.append(header)
for i in range(5):
    roll_no = int(input("Enter Roll Number : "))
    name = input("Enter Name : ")
    Class = input("Enter Class : ")
    section =input("Enter Section")
    rec = [_____]                     #Statement-4
    data.append(_____)                #Statement-5
stuwriter._____ (data)                #Statement-6
fh.close()
```

50. Identify the suitable code for blank space in the line marked as Statement-1.

(a) csv file (b) CSV

(c) csv (d) cvs

51. Identify the missing code for blank space in line marked as Statement-2.

(a) "Student.csv","wb"

(b) "Student.csv","w"

(c) "Student.csv","r"

(d) "Student.cvs","r"

52. Choose the function name (with argument) that should be used in the blank space of line marked as Statement-3.

(a) reader(fh) (b) reader(MyFile)

(c) writer(fh) (d) writer(MyFile)

53. Identify the suitable code for blank space in line marked as Statement-4.

(a) 'ROLL_NO', 'NAME', 'CLASS', 'SECTION'

(b) ROLL_NO, NAME, CLASS, SECTION

(c) 'roll_no','name','Class','section'

(d) roll_no,name,Class,section

54. Identify the suitable code for blank space in the line marked as Statement-5.

(a) data (b) record

(c) rec (d) insert

55. Choose the function name that should be used in the blank space of line marked as Statement-6 to create the desired CSV File?

(a) dump() (b) load()

(c) writerows() (d) writerow()

ANSWER KEYS

Section-A

1. (d)
2. (b)
3. (d)
4. (b)
5. (c)
6. (d)
7. (c)
8. (a)
9. (d.)
10. (b)
11. (c)
12. (b)
13. (b)
14. (a)
15. (d)
16. (d)
17. (a)
18. (c)
19. (d)
20. (b)
21. (a)
22. (c)
23. (d)
24. (a)
25. (b)

Section-B

26. (c)
27. (b)
28. (d)
29. (c)
30. (c)
31. (b)
32. (b)
33. (c)
34. (d)
35. (c)
36. (d)
37. (b)
38. (b)
39. (b)
40. (c)
41. (b)
42. (d)
43. (b)
44. (d)
45. (b)
46. (a)
47. (b)
48. (b)
49. (b)

Section-C

50. (c)
51. (b)
52. (c)
53. (d)
54. (c)
55. (c)

Sample Question Paper Class: XII

Session : 2021-22 Computer Science (Code 083)
(Theory: Term-1)

Maximum Marks: 35 **Time Allowed: 90 Minutes**

General Instructions:

- The question paper is divided into 3 Sections - A, B and C.
- Section A, consist of 25 Questions (1-25). Attempt any 20 questions.
- Section B, consist of 25 Questions (26-50). Attempt any 20 questions.
- Section C, consist of 5 case study based Questions (51-55). Attempt any 5 questions.
- All questions carry equal marks.

Section-A

1. Which of the following is an invalid variable?

(a) my_string_1 (b) 1st_string

(c) Foo (d) _

2. What type of data is:
arr = [(1,1),(2,2),(3,3)]?

(a) Array of tuples (b) Tuples of lists

(c) List of tuples (d) Invalid type

3. Write the output of the following code segment :

```
for i in range(-1,-6,-5):
print(i*i)
```

(a) 1 (b) 1 2

(c) Error (d) Infinite loop

4. What is the output of the following program :

```
print((1, 2) + (3, 4))
```

(a) (1, 2), (3, 4)

(b) (4, 6)

(c) (1, 2, 3, 4)

(d) Invalid Syntax

5. Which of the following statements are true?

(a) When you open a file for reading, if the file does not exist, an error occurs

(b) When you open a file for writing, if the file does not exist, a new file is created

(c) When you open a file for writing, if the file exists, the existing file is overwritten with the new file

(d) All of the mentioned

6. To open a file c:\scores.txt for appending data, we use _____

(a) outfile = open("c:\\scores.txt", "a")

(b) outfile = open("c:\\scores.txt", "rw")

(c) outfile = open(file = "c:\scores.txt", "w")

(d) outfile = open(file = "c:\\scores.txt", "w")

7. What is the correct syntax of open() function?

(a) file = open(file_name [, access_mode] [, buffering])

(b) file object = open(file_name [, access_mode] [, buffering])

(c) file object = open(file_name)

(d) none of the mentioned

8. **What is the two built-in functions to read a line of text from standard input, which is by default the keyboard?**
   (a) Insert (b) Input
   (c) Read (d) Scanner

9. **Which one of these is floor division?**
   (a) // (b) /
   (c) % (d) None of the above

10. **What will be the output of the following Python code snippet?**
    d1 = {"john":40, "peter":45}
    d2 = {"john":466,"peter":45}
    d1 > d2
    (a) True (b) False
    (c) Error (d) None

11. **Which of the following is not true about binary files?**
    (a) Binary files are store in terms of bytes
    (b) When you open binary file in text editor will show garbage values
    (c) Binary files represent ASCII value of characters
    (d) All of the above

12. **This method returns an integer that specifies the current position of the file object.**
    (a) seek() (b) load()
    (c) position() (d) tell()

13. **Which module is to be imported for working in binary file?**
    (a) unpickle (b) pickle
    (c) pickling (d) unpickling

14. **Which of the following items are present in the function header?**
    (a) function name (b) parameter list
    (c) return value (d) Both A and B

15. **Which of the following function headers is correct?**
    (a) def fun(a = 2, b = 3, c)
    (b) def fun(a = 2, b, c = 3)
    (c) def fun(a, b = 2, c = 3)
    (d) def fun(a, b, c = 3, d)

16. **Which of the following would you relate to a function call made with an argument passed as its parameter?**
    (a) function invocation
    (b) pass by value
    (c) pass by reference
    (d) pass by name

17. **Which of the following is not a function of csv module?**
    (a) readline() (b) writerow()
    (c) reader() (d) writer()

18. **Which of these about a dictionary is false?**
    (a) The values of a dictionary can be accessed using keys
    (b) The keys of a dictionary can be accessed using values
    (c) Dictionaries may or may not be ordered
    (d) None of the above

19. **What is output for 2 * 2 **3**
    (a) 12 (b) 64
    (c) 16 (d) 35

20. Which of the following statements are true?

(a) When you open a file for reading, if the file does not exist, an error occurs

(b) When you open a file for writing, if the file does not exist, a new file is created

(c) When you open a file for writing, if the file exists, the existing file is overwritten with the new file

(d) All of the mentioned

21. What is output of 33 == 33.0

(a) False (b) True

(c) 33 (d) None of the above

22. Functions that do not return any value are known as

(a) fruitful functions

(b) void functions

(c) library functions

(d) user-defined functions

23. A variable created or defined within a function body is classified as-

(a) Local (b) global

(c) instance (d) build-in

24. Give output:

```
s='Welcome to SPSEC'
print(s.find('come'), end= "")
print(s.find('o'))
```

(a) 4 3 (b) 3 4

(c) 3 3 (d) 4 4

25. Give output:

```
s='My'
s1='City'
s2=s[:1]+s1[len(s1)-1:]
print(s2)
```

(a) MyCity (b) CityMy

(c) Mt d (d) My

Section-B

26. To read the next line of the file from a file object infile, we use _____

(a) read(2) (b) infile.read()

(c) readline() (d) infile.readlines()

27. Which of the following file mode is not a valid file mode?

(a) rw (b) ab

(c) w+ (d) r+

28. If we want to add more contents in an existing file, file must be opened in.....mode.

(a) binary (b) append

(c) write (d) it is not possible

29. Which method is used to convert Python objects for writing data in binary file?

(a) write() (b) load()

(c) store() (d) dump()

30. Which is not the valid mode for binary files?

(a) r (b) rb

(c) wb (d) wb+

31. Which of the following function is used to read the data in binary file?

(a) read() (b) open()

(c) dump() (d) load()

32. Suresh wants to open the binary file student.dat in read mode. He writes the following statement but he does not know the mode. Help him to find the same.

```
F=open('student.dat', ____)
```

(a) r (b) rb

(c) w (d) wb

33. What is the output of the following program?

```
L= list('123456')
L[0]=L[5]=0
L[3]=L[-2]
print (L)
```

(a) [0, '2', '3', '4', '5', 0]
(b) ['6', '2', '3', '5', '5', '6']
(c) ['0', '2', '3', '5', '5', '0']
(d) [0, '2', '3', '5', '5', 0]

34. What is the result of executing the following code?

```
number=5
while number <=5:
if number <5:
number=number+1
print(number)
```

a) The program will loop indefinitely
b) The value of number will be printed exactly 1 time
c) The while loop will never get executed
d) The value of number will be printed exactly 5 times

35. What is the output of the following?

```
i=1
while True:
if i%007==0:
break
print(i)
i+=1
```

(a) 1 2 3 4 5 6 (b) 1 2 3 4 5 6 7
(c) Error (d) None of these

36. What is the output of the following program?

```
L1=[ ]
L1.append([1,[2,3],4])
L1.extend([7,8,9])
print(L1[0][1][1]+L1[2])
```

(a) Type Error: can only concatenate list (not "int") to list
(b) 12
(c) 11
(d) 38

37. What will be the output of the following Python code?

```
def f1(a,b=[]):
b.append(a)
return b
print (f1(2,[3,4]))
```

(a) [3,2,4] (b) [2,3,4]
(c) [3,4,2] (d) Error

38. What is the output?

```
Y=[2,5J,6]
Y.sort()
```

(a) [2,6,5J] (b) [5J,2,6]
(c) [6,5J,2] (d) Error

39. What will be the output of the following program?

```
tuple=("Check")*3
print (tuple)
```

(a) Unexpected
(b) (3Check)
(c) CheckCheckCheck
(d) Syntax Error

40. Predict the output of the following code:

```
x,y=2,4
if(x+y= =10):
print("true")
else:
print("false")
```

(a) true (b) false

(c) no output (d) none

41. Choose the answer for statement 1

```
import_____          #statement 1
rec=[]
while True:
rn=int(input("Enter"))
nm= input("Enter")
temp=[rn,nm]
rec.append(temp)
ch=input("enter choice(Y/N)")
ifch.upper== "N":
break
F=open("stud.dat","____")  #statement 2
_____.dump(rec,f)      #statement 3
_____.close()          #statement 4
```

(a) csv (b) unpickle

(c) pickle (d) load

42. Write the output of the First Print statements :

```
f=open("data.txt",'w')
f.write("Hello")
f.write("Welcome to my Blog")
f.close()
f=open("data.txt", 'r')
d=f.read(5)
print(d)          # First Print Statement
f.seek(10)
d=f.read(3)
print(d)          # Second Print Statement
f.seek(13)
d=f.read(5)
print(d)          # Third Print Statement
d=f.tell()
print(d)          # Fourth Print Statement
```

(a) Hello

(b) Hell

(c) Ello

d) None of the above

43. Ram opened a file in a certain mode. After opening the file, he forgot the mode. The interesting facts about that mode are " If the file doesn't exist, then a new file will be created" and "After opening file in that mode the file handle will be at the end of the file" Help him to identify the correct mode.

(a) read mode

(b) write mode

(c) append mode

(d) binary and read mode

44. What is the output of the following code.

```
defouterFun(a,b):
definnerFun(c,d):
returnc+d
returninnerFun(a,b)
res=outerFun(5,10)
print(res)
```

(a) 15 (b) Syntax Error

(c) (5, 10) (d) (10,5)

45. What will be printed when the following code executes?

```
def test(a,b=5):
print(a,b)
test(-3)
```

(a) -3, b (b) a, 5

(c) -3, 5 (d) -3 5

46. What value is printed when the following code is executed?

```
name="Jane Doe"
defmyFunction (parameter):
value="First"
value= parameter
print (value)
myFunction("Second")
```

(a) Value (b) Second

(c) Parameter (d) First

47. What will be the output of the following snippet?

```
f = None
for i in range (5):
with open ("data.txt", "W") as f:
if i > 2:
break
print (f.closed)
```

(a) True (b) False

(c) None (d) Error

48. What will be the output of following Python code?

```
x=['ab', 'cd']
for i in x:
x.append(i.upper())
print(x)
```

(a) ['AB', 'CD']

(b) ['ab', 'cd', 'AB', 'CD']

(c) ['ab', 'cd']

(d) None of mentioned

49. What is printed by the following statements?

```
D={"cat":12, "dog": 10, "cow": 20, "bear":25}
print(25 in D)
```

(a) True

(b) False

(c) Error

(d) None

50. Given tup=(5,3,1,9,0), which of the following two statements will give the same output?

(a) print(tup[:-1])

(b) print(tup[0:5])

(c) print(tup[0:4])

(d) print(tup[-4:])

Section-C

(Case Study Based Question)

Mr. Zack Sullivan loves programming. He joined an institute for learning. He is learning python. He learned all the python concepts like strings, lists, tuple, dictionaries etc. but he wants to learn file handling in python. He is trying to learn binary file handling. His teacher gave him partial code to write and read data from employee.dat having structure empno, name, salary. Help Zack to complete the code:

```
_____ # statement 1
Def addrecords():
fw= _____ #statement 2
dict={}
ch='y'
whilech=='y':
eno=int(input("enter employee number"))
nm= input("enter employee name")
sal=int(input("enter employee salary"))
dict={'empno':eno,'name':nm,'salary':sal}
_____ # statement 3
ch=input("add more record")
fw.close()
# function to display records
def display():
dict={}
fr= _____ # statement 4
dict=_____ # statement 5
fr.close()
print("data :",dict)
```

Answer questions (51-55) based on above case study

51. Help Zack to import the module to perform binary file operation in statement 1.

(a) csv (b) random
(c) pickle (d) file

52. Which statement is used from the following for statement 2 to open the binary file in write mode?

(a) open("employee.dat",'w')
(b) open("employee.dat",'wb')
(c) open("employee.dat",'w+')
(d) open("employee.dat",'r')

53. Which statement is used from the following for statement 3 to write dictionary data created in above code, namely dict, is written in binary file employee.dat file?

(a) dump(dict,fw)
(b) pickle.write(dict,fw)
(c) save(dict,fw)
(d) pickle.store(dict)

54. Which statement is used from the following for statement 4 to open the binary file in read mode?

(a) open("employee.dat",'r')
(b) open("employee.dat",'r+')
(c) open("employee.dat",'a')
(d) open("employee.dat",'rb')

55. Compelete statement 5 to read data in dictionary namely dict from the opened binary file?

(a) dict=pk.read(fr)
(b) dict=pickle.load(fr)
(c) load(dict,fr)
(d) none of these

ANSWER KEYS

Section-A		Section-B		Section-C	
1.	(b)	26.	(c)	51.	(c)
2.	(c)	27.	(a)	52.	(b)
3.	(a)	28.	(b)	53.	(a)
4.	(c)	29.	(d)	54.	(d)
5.	(d)	30.	(a)	55.	(c)
6.	(a)	31.	(d)		
7.	(b)	32.	(b)		
8.	(b)	33.	(c)		
9.	(a)	34.	(a)		
10.	(d)	35.	(d)		
11.	(c)	36.	(c)		
12.	(d)	37.	(c)		
13.	(b)	38.	(d)		
14.	(d)	39.	(c)		
15.	(c)	40.	(b)		
16.	(b)	41.	(c)		
17.	(a)	42.	(a)		
18.	(c)	43.	(c)		
19.	(c)	44.	(a)		
20.	(d)	45.	(c)		
21.	(b)	46.	(b)		
22.	(b)	47.	(d)		
23.	(a)	48.	(b)		
24.	(b)	49.	(b)		
25.	(d)	50.	(b)