

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPER

2026

**COMPUTER
SCIENCE**



West Bengal Council of
Higher Secondary Education

**CLASS XII
SEMESTER III**



COMPUTER SCIENCE

PYTHON BASICS

Multiple Choice Questions

Python Introduction

1. Who developed the Python programming language?
A) Dennis Ritchie
B) James Gosling
C) Guido van Rossum
D) Bjarne Stroustrup
2. Python is classified as a _____ language.
A) Compiled
B) Interpreted
C) Machine
D) Assembly
3. Which feature makes Python easy to learn and use?
A) Complex syntax
B) Low-level programming
C) Simple and readable syntax
D) No libraries
4. Which function is used to display output on the screen?
A) print() B) input() C) display() D) show()
5. What will be the output of the following code?

```
print("Hello World")
```


A) Hello
B) World
C) Hello World
D) Error
6. What is meant by Interactive Mode in Python?
A) Writing code in a file
B) Executing code line by line
C) Compiling code
D) Saving code
7. What is meant by Script Mode in Python?
A) Code runs without saving
B) Code runs line by line
C) Code is saved in a file and then executed
D) Code runs automatically

Keywords, Identifiers and Literals

8. Which of the following is a valid Python keyword?
A) var B) define C) def D) function





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9. Which of the following is a valid identifier?
A) 2name B) name_1 C) @name D) name-1
10. Which of the following is a literal?
A) x B) 10 C) print D) +
11. Which of the following is an operator?
A) if B) + C) value D) print
12. Which of the following is a punctuator?
A) + B) = C) () D) print
13. Which symbol is used for a single-line comment in Python?
A) // B) # C) /* */ D) --

Variables and Assignment

14. Consider the statement:
x = 5
The symbol x is a:
A) Identifier B) Literal C) Variable D) Operator
15. Which of the following is the correct assignment statement?
A) x == 5 B) x = 5 C) 5 = x D) x := 5
16. Which of the following is an example of an l-value?
A) 5 B) "Hello" C) x D) 3.14
17. Which of the following is an example of an r-value?
A) x B) y C) 10 D) variable

Python Features

18. Which of the following is NOT allowed in an identifier?
A) Underscore (_) B) Digits (not at the beginning)
C) Special symbols like @ D) Alphabets
19. Python is a case _____ language.
A) Sensitive B) Insensitive C) Both D) None
20. Which of the following is NOT a feature of Python?
A) Portable B) Object-Oriented
C) Low-Level Language D) High-Level Language

Match the Following

21. Match the Following

Column A	Column B
(a) print()	(i) Input
(b) input()	(ii) Output
(c) #	(iii) Comment
(d) def	(iv) Keyword

Options:

- A) a-ii, b-i, c-iii, d-iv B) a-i, b-ii, c-iv, d-iii C) a-iii, b-iv, c-i, d-ii D) a-iv, b-iii, c-ii, d-i

22. Match the Following

Column A	Column B
(a) x = 10	(i) Operator
(b) +	(ii) Assignment
(c) 100	(iii) Literal
(d) name_1	(iv) Identifier

Options:

- A) a-ii, b-i, c-iii, d-iv B) a-i, b-ii, c-iv, d-iii C) a-iii, b-iv, c-i, d-ii D) a-iv, b-iii, c-ii, d-i

23. Match the Following

Column A	Column B
(a) Interactive Mode	(i) Saved File
(b) Script Mode	(ii) Line by Line Execution
(c) .py File	(iii) Python File
(d) Python	(iv) Programming Language

Options:

- A) a-ii, b-i, c-iii, d-iv B) a-i, b-ii, c-iv, d-iii C) a-iii, b-iv, c-i, d-ii D) a-iv, b-iii, c-ii, d-i

24. Match the Following

Column A	Column B
(a) Variable	(i) Fixed Value
(b) Literal	(ii) Stores Data
(c) Operator	(iii) Performs Operation
(d) Keyword	(iv) Reserved Word

Options:

- A) a-ii, b-i, c-iii, d-iv B) a-i, b-ii, c-iv, d-iii C) a-iii, b-iv, c-i, d-ii D) a-iv, b-iii, c-ii, d-i

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25. Match the Following

Column A

- (a) l-value
- (b) r-value
- (c) =
- (d) "Hello"

Column B

- (i) Right Side
- (ii) Left Side
- (iii) Assignment Operator
- (iv) String Literal

Options:

- A) a-ii, b-i, c-iii, d-iv B) a-i, b-ii, c-iv, d-iii C) a-iii, b-iv, c-i, d-ii D) a-iv, b-iii, c-ii, d-i

26. Which situation is best suited for Interactive Mode?

- A) Writing a large software project
- B) Testing small expressions and commands
- C) Creating Python files
- D) Writing documentation

27. What will happen when the following code executes?

```
a = 5
b = "5"
print(a + b)
```

- A) 10 B) 55 C) Error D) None

28. Which statement about Python keywords is correct?

- A) Keywords can be used as variable names
- B) Identifiers can be keywords
- C) Keywords have predefined meanings in Python
- D) Identifiers are fixed words

29. Which is considered a good programming practice?

- A) Using single-letter variable names everywhere
- B) Using meaningful variable names
- C) Avoiding comments
- D) Writing the entire program in one line

30. Why are comments important in a Python program?

- A) Increase execution speed
- B) Help Python execute faster
- C) Improve readability and understanding
- D) Replace variables

Fill in the Blanks

31. The statement `print(Hello)` gives an error because `Hello` is treated as an _____ instead of a string literal.

- A) Operator B) Identifier C) Keyword D) Literal

32. In the statement `10 = x`, the error occurs because the left side must be an _____.

- A) r-value B) Literal C) l-value D) Constant

33. The expression $a = 5$ and $b = "5"$ cannot be added using $a + b$ because they belong to different _____.
- A) Variables B) Data Types C) Operators D) Keywords
34. Interactive mode is preferred for _____ testing, while Script mode is used for _____ programs.
- A) Large, Small B) Quick, Complete C) Complex, Short D) Manual, Automatic
35. The identifier `1name` is invalid because identifiers cannot start with a _____.
- A) Letter B) Underscore C) Digit D) Keyword
36. If a programmer writes `Print("Hello")` instead of `print("Hello")`, an error occurs because Python is _____ sensitive.
- A) Space B) Syntax C) Case D) Variable
37. The line
`# print("Hello")`
does not execute because it is treated as a _____.
- A) Variable B) Function C) Comment D) Identifier
38. Keywords cannot be used as identifiers because they have _____ meanings in Python.
- A) User-defined B) Reserved C) Temporary D) Variable
39. Using meaningful variable names improves _____ and makes debugging easier.
- A) Speed B) Memory C) Readability D) Compilation
40. In the statement
`x = y + 2` the variable `x` is an _____ and `y + 2` is an _____.
- A) r-value, l-value B) Identifier, Operator C) l-value, r-value D) Literal, Identifier

Answer Key

Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1	C	11	B	21	A	31	B
2	B	12	C	22	A	32	C
3	C	13	B	23	A	33	B
4	A	14	C	24	A	34	B
5	C	15	B	25	A	35	C
6	B	16	C	26	B	36	C
7	C	17	C	27	C	37	C
8	C	18	C	28	C	38	B
9	B	19	A	29	B	39	C
10	B	20	C	30	C	40	C



PYTHON DATA TYPES

Multiple Choice Questions

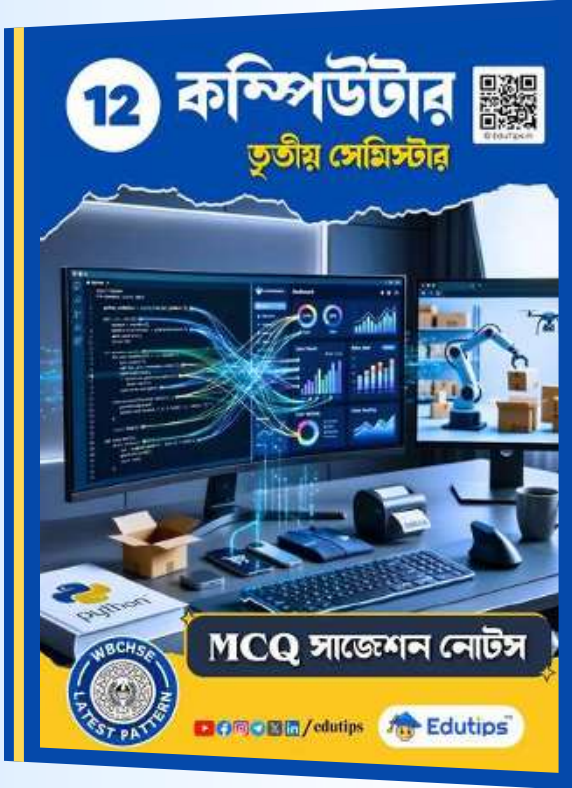
Basic Data Types

- Which of the following is an integer value?
A) 3.14 B) 5 C) 2+3j D) "5"
- Which of the following is a floating-point number?
A) 10 B) 3.5 C) "3.5" D) True
- Which represents a complex number in Python?
A) 5 B) 3.14 C) 2+3j D) "2+3j"
- Which of the following is a Boolean value?
A) 0 B) 1 C) True D) "True"
- Which of the following is a string?
A) 'Hello' B) 10 C) 2.5 D) True
- Which data type is used to store multiple values in order and is mutable?
A) Tuple B) List C) String D) Dictionary
- Which of the following is immutable?
A) List B) Dictionary C) Tuple D) Set
- Which symbol is used to create a list?
A) () B) [] C) {} D) <>
- Which symbol is used to create a tuple?
A) () B) [] C) {} D) ""
- Which of the following is a dictionary?
A) [1,2,3] B) (1,2,3) C) {"a":1} D) "abc"

Understanding Data Types

- A dictionary stores data in _____ pairs.
A) Index-Value B) Key-Value C) Value-Value D) Key-Index
- Which type can store mixed data values?
A) int B) List C) float D) bool
- Which data type is ordered?
A) Dictionary B) List C) Set D) NoneType

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14. What is the type of None?
A) int B) String C) NoneType D) bool
15. Which of the following is immutable?
A) String B) List C) Dictionary D) Set
16. Which of the following is mutable?
A) Tuple B) String C) List D) int
17. Which data type can be used as a dictionary key?
A) List B) Tuple C) Dictionary D) Set
18. Which of the following is NOT a sequence type?
A) List B) Tuple C) Dictionary D) String
19. Which is a valid Boolean constant in Python?
A) TRUE B) False C) false D) TRUE()
20. Which data type represents absence of a value?
A) 0 B) False C) None D) ""
21. Which data type is most suitable for storing fixed data that should not change?
A) List B) Tuple C) Dictionary D) String
22. Why is a list preferred over a tuple in many applications?
A) Faster B) Mutable C) Smaller D) Immutable
23. Which data type is best for key-based access of data?
A) List B) Tuple C) Dictionary D) String
24. Which type is safest when data should remain unchanged?
A) List B) Tuple C) Dictionary D) Set
25. Which data type is best for storing a student record with name, roll and marks?
A) List B) Dictionary C) Tuple D) String
26. Which data type allows duplicate values?
A) Dictionary Keys B) List C) Set D) NoneType
27. Which data type is generally more memory efficient?
A) List B) Tuple C) Dictionary D) Set
28. Which data type maintains the order of inserted elements?
A) Dictionary B) List C) Set D) NoneType
29. Which data type is most suitable for mathematical calculations?
A) int / float B) String C) List D) Tuple

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30. Which is best for representing “no result” or “missing value”?

- A) 0 B) False C) None D) “”

Advanced MCQs

31. Which of the following is a valid complex number?

- A) $2+3i$ B) $2+3j$ C) $2+j3$ D) $j+3$

32. Which data type is used to store textual data?

- A) String B) Integer C) Float D) Complex

33. Which data type supports indexing and slicing?

- A) String B) List C) Tuple D) All of these

34. Which data type is called a mapping type?

- A) List B) Tuple C) Dictionary D) String

35. Which of the following is mutable?

- A) String B) Tuple C) List D) Integer

36. Which of the following can contain duplicate elements?

- A) Set B) List C) Dictionary Keys D) NoneType

37. Which data type can store heterogeneous values?

- A) List B) Tuple C) Dictionary D) All of these

38. Which of the following is not mutable?

- A) List B) Dictionary C) Tuple D) Set

39. Which built-in function returns the type of a variable?

- A) datatype() B) class() C) typeof() D) type()

40. Which data type is represented by curly braces with key-value pairs?

- A) Set B) Tuple C) Dictionary D) List

Match the Following

41. Match the Following

Column A

- (a) int
(b) float
(c) complex
(d) bool

Column B

- (i) Whole Number
(ii) Decimal Number
(iii) $a+bj$
(iv) True/False

- A) a-i, b-ii, c-iii, d-iv B) a-ii, b-i, c-iv, d-iii C) a-iii, b-iv, c-i, d-ii D) a-iv, b-iii, c-ii, d-i

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42. Match the Following

Column A	Column B
(a) List	(i) Mutable
(b) Tuple	(ii) Immutable
(c) String	(iii) Immutable
(d) Dictionary	(iv) Mutable
A) a-i, b-ii, c-iii, d-iv	B) a-ii, b-i, c-iv, d-iii
C) a-iii, b-iv, c-i, d-ii	D) a-iv, b-iii, c-ii, d-i

43. Match the Following

Column A	Column B
(a) []	(i) List
(b) ()	(ii) Tuple
(c) { }	(iii) Dictionary
(d) ""	(iv) String
A) a-i, b-ii, c-iii, d-iv	B) a-ii, b-i, c-iv, d-iii
C) a-iii, b-iv, c-i, d-ii	D) a-iv, b-iii, c-ii, d-i

44. Match the Following

Column A	Column B
(a) None	(i) No Value
(b) True	(ii) Boolean
(c) 5	(iii) Integer
(d) 2.5	(iv) Float
A) a-i, b-ii, c-iii, d-iv	B) a-ii, b-i, c-iv, d-iii
C) a-iii, b-iv, c-i, d-ii	D) a-iv, b-iii, c-ii, d-i

45. Match the Following

Column A	Column B
(a) Dictionary	(i) Key-Value
(b) List	(ii) Ordered
(c) Tuple	(iii) Fixed Collection
(d) String	(iv) Text
A) a-i, b-ii, c-iii, d-iv	B) a-ii, b-i, c-iv, d-iii
C) a-iii, b-iv, c-i, d-ii	D) a-iv, b-iii, c-ii, d-i

Assertion-Reasoning

46. Assertion (A): Tuples are immutable.

Reason (R): Elements of a tuple cannot be modified after creation.

- A) Both A and R are true and R explains A
 B) Both A and R are true but R does not explain A
 C) A is true but R is false
 D) A is false but R is true

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47. **Assertion (A): Lists are mutable.**
Reason (R): Elements can be added, removed or modified in a list.
A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
48. **Assertion (A): Dictionary data is stored using keys.**
Reason (R): Values are accessed using corresponding keys.
A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
49. **Assertion (A): None represents the absence of a value.**
Reason (R): None belongs to the NoneType data type.
A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
50. **Assertion (A): A tuple can be used as a dictionary key.**
Reason (R): Tuples are immutable.
A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true

Fill in the Blanks

Choose the correct option.

51. Whole numbers are stored using the _____ type.
A) float B) string C) int D) bool
52. Decimal numbers are stored using the _____ type.
A) int B) float C) complex D) string
53. Complex numbers use _____ as the imaginary unit.
A) i B) I C) j D) k

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54. True and False belong to the _____ type.
A) string B) bool C) int D) float
55. A sequence of characters is called a _____.
A) tuple B) list C) string D) dictionary
56. A _____ is a mutable sequence.
A) tuple B) list C) string D) bool
57. A _____ is an immutable sequence.
A) list B) dictionary C) tuple D) set
58. A dictionary stores data in _____ pairs.
A) index-value B) value-value C) key-value D) key-index
59. _____ represents the absence of a value.
A) False B) 0 C) None D) ""
60. Data types that can be modified are called _____.
A) immutable B) mutable C) sequence D) numeric

Answer Key

Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1	B	11	B	21	B	31	B	41	A	51	int
2	B	12	B	22	B	32	A	42	A	52	float
3	C	13	B	23	C	33	D	43	A	53	j
4	C	14	C	24	B	34	C	44	A	54	bool
5	A	15	A	25	B	35	C	45	A	55	string
6	B	16	C	26	B	36	B	46	A	56	list
7	C	17	B	27	B	37	D	47	A	57	tuple
8	B	18	C	28	B	38	C	48	A	58	key-value
9	A	19	B	29	A	39	D	49	B	59	None
10	C	20	C	30	C	40	C	50	A	60	mutable

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PYTHON OPERATORS

Part A: Multiple Choice Questions

1. Which is an arithmetic operator?
A) and B) + C) is D) in
2. Which operator is used for division?
A) / B) // C) % D) **
3. Which operator gives remainder?
A) / B) // C) % D) *
4. Which operator is used for exponentiation?
A) ^ B) ** C) * D) //
5. Which is a relational operator?
A) and B) = C) + D) in
6. Which operator checks equality?
A) = B) == C) != D) >=
7. Which is a logical operator?
A) + B) and C) == D) in
8. What is the result of True and False?
A) True B) False C) Error D) None
9. Which is an assignment operator?
A) = B) = C) != D) >
10. Which is an augmented assignment operator?
A) x = x + 5 B) x += 5 C) x == 5 D) x := 5
11. Which operator checks identity?
A) = B) is C) = D) in
12. Which operator checks membership?
A) is B) == C) in D) =
13. What is the result of 5 > 3?
A) True B) False C) 5 D) Error
14. What is the result of 5 != 5?
A) True B) False C) None D) Error

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15. What is the result of True or False?
A) False B) True C) None D) Error
16. What is the result of 10 // 3?
A) 3.33 B) 3 C) 4 D) 1
17. What is the result of 2 ** 3?
A) 6 B) 8 C) 9 D) 5
18. Which is NOT a logical operator?
A) and B) or C) not D) in
19. What is the result of 5 in [1,2,3]?
A) True B) False C) Error D) None
20. Which operator checks whether two variables refer to the same object?
A) == B) is C) in D) =
21. Which operator should be used to compare values of two variables?
A) is B) == C) in D) =
22. Why is += preferred over x = x + 1?
A) Slower B) Shorter and efficient
C) Invalid D) Same meaning only
23. Which operator avoids decimal values during division?
A) / B) // C) % D) **
24. Which operator is best for checking whether an item exists in a list?
A) is B) == C) in D) =
25. Which operator ensures that both conditions are true?
A) or B) and C) not D) ==
26. Which operator is safer for checking object identity?
A) == B) is C) in D) !=
27. Which operator reverses a Boolean condition?
A) and B) or C) not D) ==
28. Which operator checks absence of an element in a collection?
A) in B) is C) not in D) !=
29. Which operator updates a variable directly?
A) == B) += C) is D) in



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2. The second world war was fought between...

3. The third world war was fought between...

4. The fourth world war was fought between...

5. The fifth world war was fought between...

Geography Practice Set

1. The capital of Bangladesh is...

2. The largest city of Bangladesh is...

3. The smallest city of Bangladesh is...

4. The most populated city of Bangladesh is...

5. The least populated city of Bangladesh is...

Political Science Practice Set

1. The first president of Bangladesh was...

2. The first prime minister of Bangladesh was...

3. The first vice president of Bangladesh was...

4. The first speaker of the National Assembly was...

5. The first member of parliament was...

Economics Practice Set

1. The first world war was fought between...

2. The second world war was fought between...

3. The third world war was fought between...

4. The fourth world war was fought between...

5. The fifth world war was fought between...

Sociology Practice Set

1. The first world war was fought between...

2. The second world war was fought between...

3. The third world war was fought between...

4. The fourth world war was fought between...

5. The fifth world war was fought between...



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30. Which operators are commonly used for multiple condition checking?
A) and / or B) = C) is D) in
31. What will be the output?
x = 10
x += 5
print(x)
A) 10 B) 15 C) 5 D) Error
32. What will be the output?
print(5 > 3 and 2 > 1)
A) True B) False C) Error D) None
33. What will be the output?
print(5 > 3 or 2 > 5)
A) True B) False C) Error D) None
34. What will be the output?
print(not True)
A) True B) False C) None D) Error
35. What will be the output?
print(10 // 3)
A) 3.33 B) 3 C) 1 D) Error
36. What will be the output?
print(10 % 3)
A) 3 B) 1 C) 0 D) Error
37. What will be the output?
x=[1,2]
y=x
print(x is y)
A) True B) False C) Error D) None
38. What will be the output?
print(5 in [1,2,5])
A) True B) False C) Error D) None
39. What will be the output?
print(5 not in [1,2,3])
A) True B) False C) Error D) None

40. What will be the output?

print(5 == 5.0)

A) True

B) False

C) Error

D) None

41. Match the Following

Column A

Column B

(a) +

(i) Addition

(b) -

(ii) Subtraction

(c) *

(iii) Multiplication

(d) /

(iv) Division

A) a-i, b-ii, c-iii, d-iv

B) a-ii, b-i, c-iv, d-iii

C) a-iii, b-iv, c-i, d-ii

D) a-iv, b-iii, c-ii, d-i

42. Match the Following

Column A

Column B

(a) ==

(i) Equal To

(b) !=

(ii) Not Equal To

(c) >

(iii) Greater Than

(d) <

(iv) Less Than

A) a-i, b-ii, c-iii, d-iv

B) a-ii, b-iii, c-iv, d-i

C) a-iii, b-iv, c-i, d-ii

D) a-iv, b-i, c-ii, d-iii

43. Match the Following

Column A

Column B

(a) and

(i) Both True

(b) or

(ii) At Least One True

(c) not

(iii) Negation

(d) True

(iv) Boolean Value

A) a-i, b-ii, c-iii, d-iv

B) a-ii, b-iii, c-iv, d-i

C) a-iii, b-iv, c-i, d-ii

D) a-iv, b-i, c-ii, d-iii

44. Match the Following

Column A

Column B

(a) is

(i) Identity

(b) is not

(ii) Not Identity

(c) in

(iii) Membership

(d) not in

(iv) Absence of Membership

A) a-i, b-ii, c-iii, d-iv

B) a-ii, b-iii, c-iv, d-i

C) a-iii, b-iv, c-i, d-ii

D) a-iv, b-i, c-ii, d-iii

45. Match the Following

Column A

Column B

(a) =

(i) Assignment

(b) +=

(ii) Add and Assign

(c) -=

(iii) Subtract and Assign

(d) *=

(iv) Multiply and Assign

A) a-i, b-ii, c-iii, d-iv

B) a-ii, b-i, c-iv, d-iii

C) a-iii, b-iv, c-i, d-ii

D) a-iv, b-iii, c-ii, d-i

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

Assertion-Reasoning

46. **Assertion (A):** == compares values of two objects.
Reason (R): is compares memory identity of objects.
- A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
47. **Assertion (A):** // is called floor division.
Reason (R): It returns the integer quotient without decimal part.
- A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
48. **Assertion (A):** not is a logical operator.
Reason (R): It reverses the truth value of an expression.
- A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
49. **Assertion (A):** Membership operators work with lists and strings.
Reason (R): They check whether an element exists in a sequence.
- A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true
50. **Assertion (A):** += is an augmented assignment operator.
Reason (R): It combines addition and assignment in one statement.
- A) Both A and R are true and R explains A
B) Both A and R are true but R does not explain A
C) A is true but R is false
D) A is false but R is true

Fill in the Blanks

Choose the correct option.

51. + is an _____ operator.
- A) Logical B) Relational C) Arithmetic D) Membership

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52. **=** is a _____ operator.
A) Assignment B) Relational C) Arithmetic D) Identity
53. **and** is a _____ operator.
A) Arithmetic B) Logical C) Assignment D) Membership
54. **=** is an _____ operator.
A) Relational B) Assignment C) Arithmetic D) Identity
55. **+=** is an _____ assignment operator.
A) Conditional B) Augmented C) Membership D) Logical
56. **is** checks _____.
A) Equality B) Membership C) Identity D) Arithmetic
57. **in** checks _____.
A) Identity B) Assignment C) Membership D) Comparison
58. **//** performs _____ division.
A) Normal B) Exact C) Floor D) Floating
59. **%** returns the _____.
A) Quotient B) Remainder C) Product D) Difference
60. **not** is used for _____.
A) Membership B) Assignment C) Negation D) Comparison

Answer Key

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
B	A	C	B	B	B	B	B	B	B	B	C	A	B	B	B	B
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
D	B	B	B	B	B	C	B	B	C	C	B	A	B	A	A	B
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
B	B	A	A	A	A	A	A	A	A	A	B	A	A	A	A	C
52	53	54	55	56	57	58	59	60								
B	B	B	B	C	C	C	B	C								

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS
PYTHON ITERATIVE STATEMENTS
Section A: Multiple Choice Questions

1. Which loop is best when the number of iterations is known?
A) while B) for C) do-while D) switch
2. What does range(1,5) generate?
A) 1, 2, 3, 4 B) 1, 2, 3, 4, 5 C) 0, 1, 2, 3, 4 D) 2, 3, 4, 5
3. Which loop checks a condition before execution?
A) for B) while C) Both for and while D) None
4. Which statement stops a loop completely?
A) continue B) break C) pass D) return
5. Which statement skips the current iteration and moves to the next?
A) break B) continue C) stop D) exit
6. Which function is commonly used with a for loop to generate a sequence?
A) len() B) input() C) range() D) list()
7. Which loop is more suitable when the number of iterations is unknown?
A) for B) while C) Nested loop D) Infinite loop
8. Which keyword does nothing and acts as a placeholder?
A) continue B) break C) pass D) skip
9. Which loop can easily become an infinite loop if the condition never becomes false?
A) for B) while C) Nested loop D) None
10. Which of the following generates numbers from 0 to 4?
A) range(5) B) range(1,5) C) range(0,6) D) range(1,6)
11. Which loop is commonly used for traversing lists and strings?
A) while B) for C) switch D) do-while
12. What is the step value in range(1,10,2)?
A) 1 B) 2 C) 9 D) 10
13. Which loop structure is mainly used in pattern printing?
A) Single loop B) Nested loop C) Infinite loop D) Conditional loop
14. What is the output of len(range(5))?
A) 4 B) 5 C) 6 D) Error

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15. Which statement exits only the current iteration?
 A) break B) continue C) pass D) return
16. Which keyword is used to create a loop inside another loop?
 A) loop B) nested C) for/while inside another loop D) repeat
17. What is the factorial of 5?
 A) 20 B) 60 C) 120 D) 125
18. Which loop is generally preferred when processing each item in a sequence?
 A) while B) for C) if D) switch
19. What is the sum of the series $1 + 2 + 3 + 4 + 5$?
 A) 10 B) 12 C) 15 D) 20
20. Which of the following is NOT a loop control statement?
 A) break B) continue C) pass D) print
21. What will be the output?

```
for i in range(3):
    print(i)
```

 A) 1 2 3 B) 0 1 2 C) 0 1 2 3 D) Error
22. What will be the output?

```
i = 1
while i <= 3:
    print(i)
    i += 1
```

 A) 1 2 3 B) 0 1 2 C) Infinite loop D) Error
23. What will be the output?

```
for i in range(5):
    if i == 3:
        break
    print(i)
```

 A) 0 1 2 B) 0 1 2 3 C) 1 2 3 D) Error
24. What will be the output?

```
for i in range(5):
    if i == 3:
        continue
    print(i)
```

 A) 0 1 2 3 4 B) 0 1 2 4 C) 1 2 3 4 D) Error

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

25. What will be the output?

```
for i in range(1,5):
```

```
    print(i)
```

A) 1 2 3 4

B) 1 2 3 4 5

C) 0 1 2 3

D) Error

26. What will be the output?

```
for i in range(5,0,-1):
```

```
    print(i)
```

A) 5 4 3 2 1

B) 1 2 3 4 5

C) 0 1 2 3 4

D) Error

27. What will be the output?

```
i = 1
```

```
while i < 4:
```

```
    print(i)
```

```
    i += 1
```

A) 1 2 3

B) 1 2

C) 0 1 2

D) Infinite loop

28. What will be the output?

```
for i in range(5):
```

```
    if i == 2:
```

```
        continue
```

```
    print(i)
```

A) 0 1 3 4

B) 0 1 2 3 4

C) 1 2 3

D) Error

29. What will be the output?

```
for i in range(5):
```

```
    if i == 2:
```

```
        break
```

```
    print(i)
```

A) 0 1

B) 0 1 2

C) 1 2 3

D) Error

30. How many times will the following statement execute?

```
for i in range(3):
```

```
    for j in range(2):
```

```
        print(i,j)
```

A) 3

B) 2

C) 6

D) 5

31. What is the output of `list(range(3))`?

A) [1,2,3]

B) [0,1,2]

C) [0,1,2,3]

D) Error

32. What is the output of `range(2,8,2)`?

A) 2,4,6

B) 2,4,6,8

C) 0,2,4,6

D) Error



উচ্চ মাধ্যমিক তৃতীয় সেমিস্টার

COMMERCE Class 12 Sem 3

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Accounting for Partnership

Q1. অংশীদারি প্রতিষ্ঠান অংশীদারিত্বের আর্থিক বছর কখন শুরু হয়?

☐ ১ম জানুয়ারি
☐ ১ম এপ্রিল
☐ ১ম জুলাই
☐ ১ম অক্টোবর

☒ ১ম জানুয়ারি
 ১০% Correct

Class 12 3rd Sem Commerce Practice

Business Studies - Quiz

অংশীদারি প্রতিষ্ঠান

Q1. অংশীদারি প্রতিষ্ঠান কখন শুরু হয়?

☐ ১ম জানুয়ারি
☒ ১ম এপ্রিল
☐ ১ম জুলাই
☐ ১ম অক্টোবর

☒ ১ম জানুয়ারি
 ১০% Correct

Class 12 3rd Sem Commerce Practice

Costing & Taxation - Quiz

Cost of Labour - Quiz #1

Q1. নিম্নলিখিত কোনটি ল্যাবর কস্ট?

☐ মেশিনের কস্ট
☐ মালিকের কস্ট
☐ মাস্টার কস্ট
☒ ল্যাবর কস্ট

☒ ল্যাবর কস্ট
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Class 12 Sem 3

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কমার্সের জন্য স্পেশাল স্মার্ট প্র্যাকটিস ব্যাচ









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Wp0 o t o



Wp0 o s o p

COMPUTER SCIENCE

33. Which loop is more appropriate for menu-driven programs?
A) for B) while C) Nested for D) None
34. Which statement is used to terminate a loop based on a condition?
A) break B) continue C) pass D) skip
35. Which loop control statement is useful when some values should be ignored?
A) break B) continue C) pass D) return
36. Which of the following can be used for pattern printing?
A) for loop B) while loop C) Nested loops D) All of these
37. What is the factorial of 4?
A) 24 B) 12 C) 16 D) 20
38. What is the sum of $1 + 2 + 3 + 4$?
A) 10 B) 8 C) 9 D) 12
39. Which loop is generally preferred for factorial programs?
A) for B) while C) Both D) None
40. Pattern printing mainly uses:
A) Single loop B) Nested loop C) if statement only D) None

Match the Following

41. Match the Following

Column A

Column B

- | | |
|---------------|-----------------------|
| 1. for loop | a. Fixed Iteration |
| 2. while loop | b. Condition-Based |
| 3. range() | c. Generates Sequence |
| 4. iteration | d. Repeated Execution |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c

42. Match the Following

Column A

Column B

- | | |
|-------------|-------------------|
| 1. break | a. Exit Loop |
| 2. continue | b. Skip Iteration |
| 3. pass | c. Do Nothing |
| 4. return | d. Exit Function |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c



TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

43. Match the Following

Column A

1. Nested Loop
2. Factorial
3. Pattern
4. Range

Column B

- a. Loop Inside Loop
- b. Product Series
- c. Structured Output
- d. Sequence Generator

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

44. Match the Following

Column A

1. range(5)
2. range(1,5)
3. range(2,10,2)
4. range(5,0,-1)

Column B

- a. 0 to 4
- b. 1 to 4
- c. Even Numbers
- d. Reverse Counting

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

45. Match the Following

Column A

1. Factorial
2. Sum Series
3. break
4. continue

Column B

- a. Multiplication Series
- b. Addition Series
- c. Exit Loop
- d. Skip Iteration

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

Assertion and Reasoning

46. Assertion: A for loop is preferred when the number of iterations is known.

Reason: The range() function can generate a fixed sequence of values.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
- B) Both are true, but Reason does not correctly explain Assertion.
- C) Assertion is true, Reason is false.
- D) Assertion is false, Reason is true.

47. Assertion: A while loop may become an infinite loop.

Reason: The loop condition may never become False.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
- B) Both are true, but Reason does not correctly explain Assertion.
- C) Assertion is true, Reason is false.
- D) Assertion is false, Reason is true.



COMPUTER SCIENCE

48. **Assertion:** break immediately terminates the loop.
Reason: It transfers control outside the loop body.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
49. **Assertion:** Nested loops are useful for pattern printing.
Reason: One loop controls rows and another controls columns.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
50. **Assertion:** continue stops the loop completely.
Reason: It skips the remaining statements of the current iteration.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

Fill in the Blanks

51. The _____ loop is generally used when the number of iterations is known.
- A) while B) for C) nested D) infinite
52. The function used to generate a sequence of numbers is _____.
- A) len() B) range() C) list() D) print()
53. The statement _____ exits a loop completely.
- A) continue B) break C) pass D) return
54. The statement _____ skips the current iteration.
- A) break B) continue C) pass D) stop
55. A loop inside another loop is called a _____ loop.
- A) conditional B) nested C) infinite D) recursive
56. The factorial of a number is obtained using repeated _____.
- A) addition B) subtraction C) multiplication D) division
57. Pattern printing generally requires _____ loops.
- A) single B) nested C) conditional D) recursive



TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

58. The loop best suited for unknown iterations is _____.
A) for B) while C) nested D) infinite
59. The keyword _____ acts as a placeholder statement.
A) continue B) break C) pass D) return
60. The function range(5) generates _____ numbers.
A) 4 B) 5 C) 6 D) 10

Answer Key
(6-Column Format)

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	A	3	C	4	B	5	B	6	C
7	B	8	C	9	B	10	A	11	B	12	B
13	B	14	B	15	B	16	C	17	C	18	B
19	C	20	D	21	B	22	A	23	A	24	B
25	A	26	A	27	A	28	A	29	A	30	C
31	B	32	A	33	B	34	A	35	B	36	D
37	A	38	A	39	C	40	B	41	A	42	A
43	A	44	A	45	A	46	A	47	A	48	A
49	A	50	D	51	B	52	B	53	B	54	B
55	B	56	C	57	B	58	B	59	C	60	B

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PYTHON STRINGS

Multiple Choice Questions

1. Which operator is used for string concatenation?
A) * B) + C) & D) %
2. What is the result of "Hi" * 3?
A) HiHiHi B) Hi3 C) Error D) HHH
3. Which operator checks membership in a string?
A) is B) == C) in D) =
4. What does string slicing do?
A) Deletes string B) Extracts part of string C) Replaces string D) Joins string
5. What is the output of len("Python")?
A) 5 B) 6 C) 7 D) Error
6. Which method converts the first letter of a string to uppercase?
A) upper() B) capitalize() C) title() D) lower()
7. Which method converts an entire string to lowercase?
A) lower() B) upper() C) title() D) capitalize()
8. Which method counts occurrences of a substring?
A) find() B) count() C) index() D) replace()
9. Which method returns the index of the first occurrence of a substring?
A) count() B) find() C) split() D) join()
10. Which method checks whether a string starts with a specified substring?
A) endswith() B) startswith() C) find() D) split()
11. Which method checks whether a string ends with a specified substring?
A) startswith() B) split() C) endswith() D) join()
12. Which method converts all characters to uppercase?
A) capitalize() B) title() C) upper() D) lower()
13. Which method removes spaces from both ends of a string?
A) strip() B) split() C) replace() D) find()
14. Which method removes spaces from the left side only?
A) strip() B) lstrip() C) rstrip() D) trim()

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

15. Which method removes spaces from the right side only?
A) strip() B) lstrip() C)rstrip() D) trim()
16. Which method replaces a substring with another substring?
A) replace() B) split() C) join() D) strip()
17. Which method breaks a string into a list of substrings?
A) split() B) join() C) partition() D) replace()
18. Which method combines elements of a list into a string?
A) split() B) join() C) partition() D) strip()
19. Which method checks whether a string contains only alphabets?
A) isdigit() B) isalpha() C) isalnum() D) isspace()
20. Which method checks whether a string contains only digits?
A) isalpha() B) isdigit() C) isalnum() D) isnumeric()
21. What will "hello".upper() return?
A) hello B) HELLO C) Hello D) Error
22. What will "Hello World".count("o") return?
A) 1 B) 2 C) 3 D) 0
23. What is the output of "python"[1:4]?
A) pyt B) yth C) tho D) hon
24. What will "abc".replace("a","x") return?
A) abc B) xbc C) axc D) Error
25. What will "apple".find("p") return?
A) 0 B) 1 C) 2 D) -1
26. What will be the output of "a" in "apple"?
A) True B) False C) Error D) None
27. What will "abc" + "123" produce?
A) abc123 B) abc 123 C) Error D) 123abc
28. What will "hi".strip() return?
A) "hi" B) " hi" C) "hi " D) " hi "
29. What will "hello world".split() return?
A) ['hello', 'world'] B) hello world C) ['hello world'] D) Error

COMPUTER SCIENCE

30. What will `"-".join(["a","b","c"])` return?
A) abc B) a-b-c C) a b c D) Error
31. What will `"Python".startswith("Py")` return?
A) True B) False C) Error D) None
32. What will `"Python".endswith("on")` return?
A) True B) False C) Error D) None
33. What will `"123".isdigit()` return?
A) True B) False C) Error D) None
34. What will `"abc123".isalnum()` return?
A) True B) False C) Error D) None
35. What will `" ".isspace()` return?
A) True B) False C) Error D) None
36. Which operation is NOT allowed on strings?
A) Indexing B) Slicing C) Concatenation D) Item Assignment
37. Strings in Python are:
A) Mutable B) Immutable C) Dynamic D) Numeric
38. Which function returns the length of a string?
A) `count()` B) `size()` C) `len()` D) `length()`
39. Which method returns the position of a substring or -1 if not found?
A) `count()` B) `find()` C) `replace()` D) `split()`
40. Which method divides a string into three parts based on a separator?
A) `split()` B) `partition()` C) `join()` D) `replace()`

Match the Following

41. Match the Following

Column A

Column B

- | | |
|------------------------------|--|
| 1. <code>capitalize()</code> | a. First Letter Uppercase |
| 2. <code>upper()</code> | b. All Uppercase |
| 3. <code>lower()</code> | c. All Lowercase |
| 4. <code>title()</code> | d. First Letter of Each Word Uppercase |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

42. Match the Following

Column A

Column B

1. isalpha()

a. Alphabets Only

2. isdigit()

b. Digits Only

3. isalnum()

c. Letters and Digits

4. isspace()

d. Spaces Only

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

43. Match the Following

Column A

Column B

1. strip()

a. Remove Both Side Spaces

2. lstrip()

b. Remove Left Spaces

3. rstrip()

c. Remove Right Spaces

4. replace()

d. Replace Substring

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

44. Match the Following

Column A

Column B

1. split()

a. Break String

2. join()

b. Combine Strings

3. partition()

c. Divide into Three Parts

4. find()

d. Search Substring

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

45. Match the Following

Column A

Column B

1. "a" in "apple"

a. Membership

2. "abc"[0]

b. Indexing

3. "abc"[1:3]

c. Slicing

4. "abc"*2

d. Repetition

A) 1-a, 2-b, 3-c, 4-d

B) 1-b, 2-c, 3-d, 4-a

C) 1-c, 2-d, 3-a, 4-b

D) 1-d, 2-a, 3-b, 4-c

Assertion and Reasoning

46. Assertion: Strings are immutable in Python.

Reason: Individual characters of a string cannot be modified after creation.

A) Both Assertion and Reason are true, and Reason correctly explains Assertion.

B) Both are true, but Reason does not correctly explain Assertion.

C) Assertion is true, Reason is false.

D) Assertion is false, Reason is true.

COMPUTER SCIENCE

47. **Assertion:** The `join()` method is often more efficient than repeated string concatenation using `+`.
Reason: `join()` creates the final string in a single operation.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
48. **Assertion:** The `find()` method is safer than `index()`.
Reason: `find()` returns `-1` when the substring is not found, while `index()` raises an exception.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
49. **Assertion:** String slicing creates a new string.
Reason: Strings cannot be modified in place.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
50. **Assertion:** The `split()` method returns a list.
Reason: It breaks a string into smaller substrings.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

Fill in the Blanks

51. The operator used for string concatenation is _____.
A) * B) + C) & D) %
52. The function _____ returns the length of a string.
A) `count()` B) `size()` C) `len()` D) `length()`
53. The method _____ converts a string to uppercase.
A) `lower()` B) `title()` C) `upper()` D) `capitalize()`
54. The method _____ removes spaces from both ends of a string.
A) `split()` B) `strip()` C) `replace()` D) `join()`
55. The method _____ splits a string into a list.
A) `join()` B) `replace()` C) `split()` D) `partition()`



TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

56. The method _____ counts occurrences of a substring.
A) count() B) find() C) index() D) replace()
57. The method _____ checks whether a string starts with a given substring.
A) endswith() B) startswith() C) split() D) join()
58. The method _____ checks whether a string contains only digits.
A) isalpha() B) isalnum() C) isdigit() D) isspace()
59. The method _____ combines elements of a list into a string.
A) split() B) join() C) partition() D) replace()
60. Strings in Python are _____ objects.
A) Mutable B) Dynamic C) Immutable D) Numeric

Answer Key
(6-Column Format)

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	A	3	C	4	B	5	B	6	B
7	A	8	B	9	B	10	B	11	C	12	C
13	A	14	B	15	C	16	A	17	A	18	B
19	B	20	B	21	B	22	B	23	B	24	B
25	B	26	A	27	A	28	A	29	A	30	B
31	A	32	A	33	A	34	A	35	A	36	D
37	B	38	C	39	B	40	B	41	A	42	A
43	A	44	A	45	A	46	A	47	A	48	A
49	A	50	A	51	B	52	C	53	C	54	B
55	C	56	A	57	B	58	C	59	B	60	C

PYTHON LISTS

Multiple Choice Questions

- Which operator is used for list concatenation?
A) * B) + C) & D) %
- What is the result of [1,2] * 2?
A) [1,2,1,2] B) [2,4] C) Error D) [1,1,2,2]
- Which operator checks membership in a list?
A) is B) == C) in D) =
- What does list slicing do?
A) Deletes list B) Extracts a portion of a list
C) Sorts list D) Reverses list
- What is the output of len([1,2,3,4])?
A) 3 B) 4 C) 5 D) Error
- Which method adds an element at the end of a list?
A) insert() B) append() C) extend() D) add()
- Which method adds multiple elements to a list?
A) append() B) insert() C) extend() D) add()
- Which method removes a specified element from a list?
A) pop() B) remove() C) delete() D) clear()
- Which method removes the last element by default?
A) remove() B) pop() C) delete() D) clear()
- Which function returns the smallest element in a list?
A) max() B) min() C) sum() D) len()
- Which function returns the largest element in a list?
A) min() B) max() C) sum() D) len()
- Which function returns the sum of all numeric elements?
A) add() B) total() C) sum() D) count()
- Which method returns the frequency of an element?
A) index() B) count() C) find() D) search()
- Which method returns the position of an element?
A) count() B) index() C) find() D) locate()

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

15. Which method reverses the order of elements in a list?
A) reverse() B) sort() C) append() D) extend()
16. Which method sorts a list in ascending order?
A) arrange() B) sorted() C) sort() D) reverse()
17. Which function returns a new sorted list?
A) sort() B) sorted() C) reverse() D) arrange()
18. Which data structure allows modification after creation?
A) Tuple B) String C) List D) Frozen Set
19. Which search technique examines elements one by one?
A) Binary Search B) Linear Search C) Hash Search D) Indexed Search
20. Which operation is valid on lists?
A) Concatenation B) Repetition
C) Membership Testing D) All of the Above
21. What will [1,2,3][1] return?
A) 1 B) 2 C) 3 D) Error
22. What will [1,2,3][0:2] return?
A) [1,2] B) [2,3] C) [1,2,3] D) Error
23. What will be returned by [3,1,2].sort()?
A) [1,2,3] B) None C) [3,1,2] D) Error
24. What will sorted([3,1,2]) return?
A) [1,2,3] B) None C) Error D) [3,1,2]
25. What will [1,2,3].pop() return?
A) 1 B) 2 C) 3 D) None
26. What will be the output of 3 in [1,2,3]?
A) True B) False C) Error D) None
27. What will [1,2] + [3,4] return?
A) [1,2,3,4] B) [4,6] C) Error D) [1,2][3,4]
28. What will [1,2,3].count(2) return?
A) 1 B) 2 C) 0 D) Error
29. Which expression correctly returns the minimum value from [5,2,8]?
A) [5,2,8].min() B) min([5,2,8]) C) minimum([5,2,8]) D) list.min()

COMPUTER SCIENCE

30. What will `sum([1,2,3])` return?
A) 5 B) 6 C) 7 D) Error
31. What will be the output?
`[[1,2],[3,4]][1][0]`
A) 1 B) 2 C) 3 D) 4
32. Which loop is commonly used to traverse a list?
A) for loop B) while loop C) Both A and B D) None
33. In linear search, what is typically returned if the element is not found?
A) -1 or False B) Error C) 0 D) None
34. What is the mean of the list `[2,4,6]`?
A) 4 B) 6 C) 12 D) 2
35. What is the frequency of 2 in `[1,2,2,3]`?
A) 1 B) 2 C) 3 D) 0
36. Which method inserts an element at a specified position?
A) `append()` B) `extend()` C) `insert()` D) `add()`
37. Which method removes all elements from a list?
A) `clear()` B) `remove()` C) `pop()` D) `delete()`
38. Which method copies a list?
A) `duplicate()` B) `copy()` C) `clone()` D) `create()`
39. Which function returns the number of elements in a list?
A) `size()` B) `count()` C) `len()` D) `total()`
40. Lists are enclosed within:
A) `()` B) `{ }` C) `[]` D) `< >`

Match the Following

41. Match the Following

Column A	Column B
1. <code>append()</code>	a. Add One Element
2. <code>extend()</code>	b. Add Multiple Elements
3. <code>insert()</code>	c. Add at Specific Position
4. <code>pop()</code>	d. Remove Element
A) 1-a, 2-b, 3-c, 4-d	B) 1-b, 2-c, 3-d, 4-a
	C) 1-c, 2-d, 3-a, 4-b
	D) 1-d, 2-a, 3-b, 4-c

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

42. Match the Following

Column A
Column B

- | | |
|----------|-------------|
| 1. len() | a. Length |
| 2. sum() | b. Total |
| 3. min() | c. Smallest |
| 4. max() | d. Largest |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-a, 3-d, 4-c C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-c, 3-b, 4-a

43. Match the Following

Column A
Column B

- | | |
|--------------|------------------|
| 1. count() | a. Frequency |
| 2. index() | b. Position |
| 3. reverse() | c. Reverse List |
| 4. sort() | d. Arrange Order |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-a, 3-d, 4-c C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-c, 3-b, 4-a

44. Match the Following

Column A
Column B

- | | |
|--------|------------------|
| 1. + | a. Concatenation |
| 2. * | b. Repetition |
| 3. in | c. Membership |
| 4. [] | d. Indexing |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c

45. Match the Following

Column A
Column B

- | | |
|------------------|----------------------|
| 1. Nested List | a. List Inside List |
| 2. Linear Search | b. Sequential Search |
| 3. Frequency | c. Count Occurrence |
| 4. Mean | d. Average |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c

Assertion and Reasoning

46. Assertion: Lists are mutable.

Reason: Elements of a list can be added, removed, or modified.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
 B) Both are true, but Reason does not correctly explain Assertion.
 C) Assertion is true, Reason is false.
 D) Assertion is false, Reason is true.



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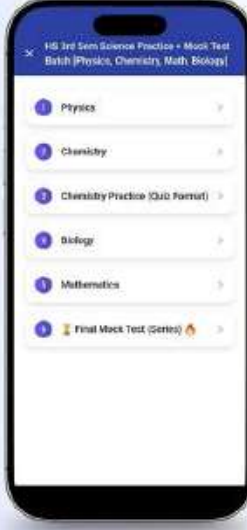
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- 4. p-ব্লক উপাদান: গ্রুপ-17 (p-Block Elements: Group-17) [Content]

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COMPUTER SCIENCE

47. **Assertion:** `sorted()` changes the original list.
Reason: `sorted()` returns a new sorted list.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
48. **Assertion:** Linear search checks elements sequentially.
Reason: It compares the target with each element until found.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
49. **Assertion:** `append()` adds only one element at a time.
Reason: `append()` inserts the given object as a single element.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
50. **Assertion:** Nested lists can store other lists as elements.
Reason: Lists can contain heterogeneous data types.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

Fill in the Blanks

51. The operator used for list repetition is _____.
A) + B) * C) % D) /
52. The function _____ returns the sum of list elements.
A) `total()` B) `add()` C) `sum()` D) `count()`
53. The method _____ adds an element at a specific position.
A) `append()` B) `extend()` C) `insert()` D) `add()`
54. The method _____ reverses a list.
A) `sort()` B) `reverse()` C) `count()` D) `index()`



TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

55. The method _____ returns the position of an element.
A) count() B) index() C) find() D) search()
56. The function _____ returns the length of a list.
A) len() B) size() C) count() D) total()
57. The method _____ removes a specified element.
A) pop() B) remove() C) clear() D) delete()
58. The method _____ adds multiple elements to a list.
A) append() B) insert() C) extend() D) add()
59. The method _____ removes the last element by default.
A) remove() B) pop() C) clear() D) delete()
60. Lists in Python are _____ data structures.
A) Immutable B) Mutable C) Fixed D) Constant

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	A	3	C	4	B	5	B	6	B
7	C	8	B	9	B	10	B	11	B	12	C
13	B	14	B	15	A	16	C	17	B	18	C
19	B	20	D	21	B	22	A	23	B	24	A
25	C	26	A	27	A	28	A	29	B	30	B
31	C	32	C	33	A	34	A	35	B	36	C
37	A	38	B	39	C	40	C	41	A	42	A
43	A	44	A	45	A	46	A	47	D	48	A
49	A	50	A	51	B	52	C	53	C	54	B
55	B	56	A	57	B	58	C	59	B	60	B

PYTHON TUPLES

Multiple Choice Questions

- Which data type in Python is immutable and ordered?
A) List B) Dictionary C) Tuple D) Set
- Which symbol is commonly used to create a tuple?
A) [] B) { } C) () D) < >
- Which operator is used for tuple concatenation?
A) * B) + C) & D) %
- What is the result of (1,2) * 2?
A) (1,2,1,2) B) (2,4) C) Error D) (1,1,2,2)
- Which operator checks membership in a tuple?
A) is B) == C) in D) =
- What does tuple slicing do?
A) Deletes tuple B) Extracts part of tuple C) Sorts tuple D) Reverses tuple
- What is the output of len((1,2,3))?
A) 2 B) 3 C) 4 D) Error
- Which function converts a list into a tuple?
A) list() B) tuple() C) set() D) dict()
- Which method counts occurrences of an element?
A) index() B) count() C) find() D) sum()
- Which method returns the index of an element?
A) count() B) index() C) find() D) locate()
- Which function returns the largest value in a tuple?
A) min() B) max() C) sum() D) len()
- Which function returns the sum of all numeric elements?
A) add() B) sum() C) total() D) count()
- Which operation is NOT allowed on tuples?
A) Indexing B) Slicing C) Modification D) Iteration
- Which type of data is best stored in a tuple?
A) Frequently changing data B) Fixed data
C) Dynamic records D) Mutable collections

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

15. Why can tuples be used as dictionary keys?
A) They are mutable B) They are immutable C) They are sorted D) They are indexed
16. Which function returns a sorted list from a tuple?
A) sort() B) sorted() C) reverse() D) arrange()
17. Which of the following represents an empty tuple?
A) [] B) {} C) () D) None
18. Which of the following represents a single-element tuple?
A) (1) B) [1] C) (1,) D) {1}
19. Tuple elements are accessed using:
A) Keys B) Indexes C) Pointers D) References
20. Which statement about tuples is true?
A) Tuples are mutable B) Tuples allow item assignment
C) Tuples preserve order D) Tuples have keys and values
21. What will (1,2,3)[1] return?
A) 1 B) 2 C) 3 D) Error
22. What will (1,2,3)[0:2] return?
A) (1,2) B) (2,3) C) (1,2,3) D) Error
23. What will sorted((3,1,2)) return?
A) (1,2,3) B) [1,2,3] C) Error D) None
24. What will (1,2,3).count(2) return?
A) 1 B) 2 C) 0 D) Error
25. What will (1,2,3).index(3) return?
A) 1 B) 2 C) 3 D) Error
26. What will be the output of 3 in (1,2,3)?
A) True B) False C) Error D) None
27. What will (1,2) + (3,4) return?
A) (1,2,3,4) B) (4,6) C) Error D) [1,2,3,4]
28. What will (1,2,3) * 2 return?
A) (1,2,3,1,2,3) B) (2,4,6) C) Error D) (1,1,2,2,3,3)
29. What will min((5,2,8)) return?
A) 2 B) 5 C) 8 D) Error

COMPUTER SCIENCE

30. What will `sum((1,2,3))` return?
A) 5 B) 6 C) 7 D) Error
31. What will be the output?
`((1,2),(3,4))[1][0]`
A) 1 B) 2 C) 3 D) 4
32. What is the result of tuple assignment `a,b=(1,2)`?
A) `a=1, b=2` B) `a=(1,2)` C) Error D) None
33. What happens if we try to modify a tuple element?
A) Allowed B) `TypeError` C) Converted to list D) Ignored
34. Which structure supports nested tuples?
A) Only List B) Only Tuple C) Both List and Tuple D) Neither
35. What is the output of `len()`?
A) 0 B) 1 C) Error D) None
36. What is the output of `max((4,7,2,9))`?
A) 2 B) 4 C) 7 D) 9
37. Which method is available for tuples?
A) `append()` B) `remove()` C) `count()` D) `extend()`
38. Which method is NOT available for tuples?
A) `count()` B) `index()` C) `append()` D) `len()`
39. What is the output of `(5,)*3`?
A) `(5,5,5)` B) `(15)` C) Error D) `[5,5,5]`
40. Which function converts a tuple into a list?
A) `tuple()` B) `dict()` C) `list()` D) `set()`

Match the Columns

41. Match the Following

Column A	Column B
1. <code>len()</code>	a. Length
2. <code>tuple()</code>	b. Convert to Tuple
3. <code>count()</code>	c. Frequency
4. <code>index()</code>	d. Position
A) 1-a, 2-b, 3-c, 4-d	B) 1-b, 2-a, 3-d, 4-c
C) 1-c, 2-d, 3-a, 4-b	D) 1-d, 2-c, 3-b, 4-a

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS
42. Match the Following
Column A
Column B

- | | |
|--------|------------------|
| 1. + | a. Concatenation |
| 2. * | b. Repetition |
| 3. in | c. Membership |
| 4. [] | d. Indexing |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c

43. Match the Following
Column A
Column B

- | | |
|-------------|----------------|
| 1. min() | a. Smallest |
| 2. max() | b. Largest |
| 3. sum() | c. Total |
| 4. sorted() | d. Sorted List |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-a, 3-d, 4-c C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-c, 3-b, 4-a

44. Match the Following
Column A
Column B

- | | |
|---------------|--------------|
| 1. Tuple | a. Immutable |
| 2. List | b. Mutable |
| 3. String | c. Sequence |
| 4. Dictionary | d. Mapping |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-a, 3-d, 4-c C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-c, 3-b, 4-a

45. Match the Following
Column A
Column B

- | | |
|-----------------|-------------------------|
| 1. Nested Tuple | a. Tuple inside Tuple |
| 2. Assignment | b. Packing/Unpacking |
| 3. (1,) | c. Single Element Tuple |
| 4. () | d. Empty Tuple |

- A) 1-a, 2-b, 3-c, 4-d B) 1-b, 2-c, 3-d, 4-a C) 1-c, 2-d, 3-a, 4-b D) 1-d, 2-a, 3-b, 4-c

Assertion and Reasoning
46. Assertion: Tuples are immutable.

Reason: Elements of a tuple cannot be modified after creation.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
 B) Both are true, but Reason does not correctly explain Assertion.
 C) Assertion is true, Reason is false.
 D) Assertion is false, Reason is true.

COMPUTER SCIENCE

47. **Assertion:** Tuples can be used as dictionary keys.
Reason: Tuples are immutable objects.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
48. **Assertion:** The `sorted()` function modifies the original tuple.
Reason: `sorted()` returns a new sorted list.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
49. **Assertion:** Tuple slicing creates a new tuple.
Reason: Tuples cannot be modified directly.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
50. **Assertion:** A tuple can contain another tuple.
Reason: Python supports nested data structures.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not correctly explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

Fill in the Blanks

51. The operator used for tuple repetition is _____.
A) + B) * C) / D) %
52. The function _____ returns the length of a tuple.
A) `size()` B) `count()` C) `len()` D) `total()`
53. The method _____ returns the frequency of an element.
A) `index()` B) `count()` C) `find()` D) `search()`
54. The function _____ returns the maximum value.
A) `min()` B) `max()` C) `sum()` D) `len()`



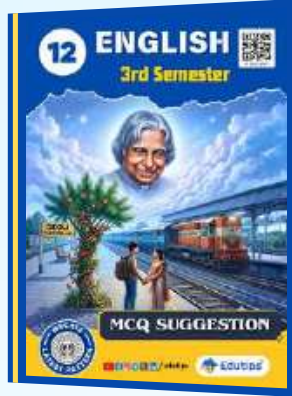
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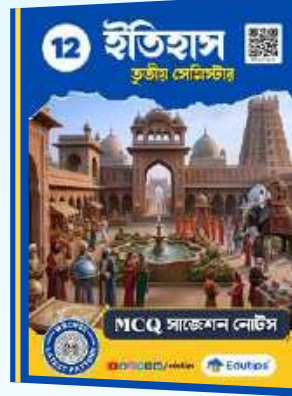
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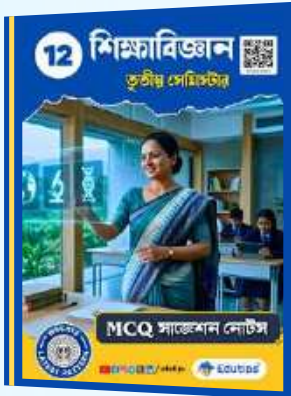
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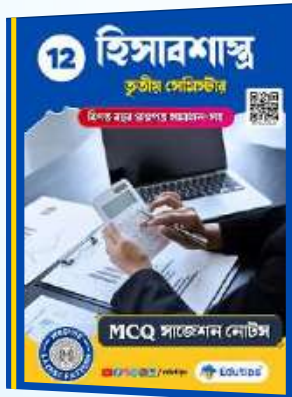
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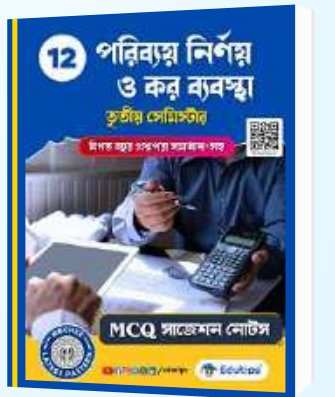
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TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

55. A tuple is _____.
A) Mutable B) Dynamic C) Immutable D) Changeable
56. The function _____ converts a list into a tuple.
A) list() B) tuple() C) dict() D) set()
57. The method _____ returns the position of an element.
A) count() B) find() C) index() D) locate()
58. The operator _____ checks membership in a tuple.
A) is B) = C) in D) =
59. A tuple containing one element must include a _____ after the element.
A) Colon B) Semicolon C) Comma D) Bracket
60. The function _____ returns the sum of all numeric elements in a tuple.
A) total() B) add() C) count() D) sum()

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	C	3	B	4	A	5	C	6	B
7	B	8	B	9	B	10	B	11	B	12	B
13	C	14	B	15	B	16	B	17	C	18	C
19	B	20	C	21	B	22	A	23	B	24	A
25	B	26	A	27	A	28	A	29	A	30	B
31	C	32	A	33	B	34	C	35	A	36	D
37	C	38	C	39	A	40	C	46	A	47	A
48	D	49	A	50	A	51	B	52	C	53	B
54	B	55	C	56	B	57	C	58	C	59	C
60	D										

Matching Answers

41. len()→Length, tuple()→Convert to Tuple, count()→Frequency, index()→Position
42. +→Concatenation, *→Repetition, in→Membership, []→Indexing
43. min()→Smallest, max()→Largest, sum()→Total, sorted()→Sorted List
44. Tuple→Immutable, List→Mutable, String→Sequence, Dictionary→Mapping
45. Nested Tuple→Tuple inside Tuple, Assignment→Packing/Unpacking, (1,)→Single Element Tuple, ()→Empty Tuple

PYTHON DICTIONARY

Multiple Choice Questions

1. Which Python data type stores information in key-value pairs?
A) List B) Tuple C) Dictionary D) String
2. How is the value associated with key "a" accessed in dictionary d?
A) d(a) B) d["a"] C) d.a D) d->a
3. Which method returns all keys of a dictionary?
A) values() B) items() C) keys() D) get()
4. Which method returns all values stored in a dictionary?
A) keys() B) values() C) items() D) get()
5. Which method returns key-value pairs as tuples?
A) keys() B) values() C) items() D) pop()
6. Which method safely accesses a value without raising an error if the key is absent?
A) get() B) keys() C) pop() D) clear()
7. Which method removes all elements from a dictionary?
A) del B) pop() C) clear() D) remove()
8. Which method removes a specific key and returns its value?
A) pop() B) clear() C) keys() D) copy()
9. Which method creates a duplicate copy of a dictionary?
A) copy() B) dict() C) update() D) setdefault()
10. Which method updates a dictionary using another dictionary?
A) update() B) add() C) insert() D) append()
11. Which function returns the total number of key-value pairs?
A) size() B) count() C) len() D) total()
12. Which function returns the largest key in a dictionary?
A) max() B) min() C) len() D) sum()
13. Which function returns the smallest key in a dictionary?
A) max() B) min() C) sorted() D) len()
14. Which function returns keys in sorted order?
A) sort() B) arrange() C) sorted() D) order()

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

15. Which method inserts a key with a default value if the key does not exist?
A) get() B) update() C) setdefault() D) copy()
16. Which statement about dictionaries is correct?
A) Keys must be unique B) Values must be unique
C) Keys can repeat D) Dictionaries are immutable
17. Why are dictionaries useful?
A) Store ordered numbers only B) Fast access using keys
C) Store only strings D) Prevent updates
18. Which operator is commonly used to check whether a key exists?
A) in B) is C) = D) not
19. Which dictionary method removes and returns the last inserted key-value pair?
A) pop() B) popitem() C) clear() D) del()
20. Which function is used to create a dictionary from a sequence of keys?
A) update() B) dict() C) fromkeys() D) keys()
21. What will len({"a":1,"b":2}) return?
A) 1 B) 2 C) 3 D) Error
22. What will {"a":1}.get("b") return?
A) Error B) None C) 0 D) "b"
23. What will max({"a":1,"b":2}) return?
A) 1 B) 2 C) 'b' D) Error
24. What will sorted({"b":2,"a":1}) return?
A) ['a','b'] B) [1,2] C) {'a':1,'b':2} D) Error
25. What will {"a":1}.setdefault("b",2) return?
A) 1 B) 2 C) None D) Error
26. What will be the output?
d={"a":1}
d["b"]=2
print(d)
A) {'a':1} B) {'a':1,'b':2} C) Error D) None
27. What will be the output?
d={"a":1}
d["a"]=5
print(d)
A) {'a':1} B) {'a':5} C) Error D) None

COMPUTER SCIENCE

28. What will be the output?

```
d={"a":1}
del d["a"]
print(d)
```

- A) {'a':1} B) {} C) Error D) None

29. What will be the output?

```
d={"a":1,"b":2}
print(list(d.keys()))
```

- A) ['a','b'] B) [1,2] C) [('a',1),('b',2)] D) Error

30. What will be the output?

```
d={"a":1,"b":2}
print(list(d.values()))
```

- A) ['a','b'] B) [1,2] C) [('a',1),('b',2)] D) Error

31. What will be the output?

```
d={"a":1,"b":2}
print(list(d.items()))
```

- A) ['a','b'] B) [1,2] C) [('a',1),('b',2)] D) Error

32. What will be the output?

```
d={"a":1}
print(d.pop("a"))
```

- A) 1 B) {'a':1} C) None D) Error

33. What will be the output?

```
d={"a":1}
d.clear()
print(d)
```

- A) {'a':1} B) {} C) None D) Error

34. What will be the output?

```
d=dict.fromkeys(["a","b"],0)
print(d)
```

- A) {'a':0,'b':0} B) ['a','b'] C) Error D) None

35. What will be the output?

```
d={"a":1}
d2=d.copy()
d2["a"]=5
print(d["a"])
```

- A) 1 B) 5 C) Error D) None

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

36. What will be the output?
`d={"x":10}`
`print("x" in d)`
 A) True B) False C) Error D) None
37. What will be the output?
`d={"x":10}`
`print("y" in d)`
 A) True B) False C) Error D) None
38. What will be the output?
`d={"a":1}`
`print(d.get("a"))`
 A) 1 B) None C) Error D) 'a'
39. What will be the output?
`d={"a":1}`
`print(d.get("b",0))`
 A) Error B) 1 C) 0 D) None
40. What will be the output?
`d={"a":1}`
`d.update({"b":2})`
`print(d)`
 A) {'a':1} B) {'b':2} C) {'a':1,'b':2} D) Error
41. Which data structure is best for storing student roll numbers and names?
 A) List B) Tuple C) Dictionary D) String
42. Which dictionary method is safest when the existence of a key is uncertain?
 A) pop() B) get() C) del D) clear()
43. A contact book stores phone numbers by person's name. Which structure is most suitable?
 A) List B) Tuple C) Dictionary D) Set
44. Which method is best for merging two dictionaries?
 A) append() B) update() C) insert() D) remove()
45. Which method should be used to create an independent copy of a dictionary?
 A) update() B) copy() C) get() D) keys()
46. Why are dictionaries preferred over lists for lookup operations?
 A) Smaller size B) Faster access using keys
 C) Fixed length D) Less memory

COMPUTER SCIENCE

47. Which method is useful when assigning default values to missing keys?
A) setdefault() B) pop() C) clear() D) values()
48. Which method is best for iterating through both keys and values?
A) keys() B) values() C) items() D) get()
49. A shopping application stores product IDs and prices. Which structure is most appropriate?
A) Tuple B) List C) Dictionary D) String
50. Which method removes the most recently inserted key-value pair?
A) clear() B) pop() C) popitem() D) update()

Assertion and Reasoning

51. **Assertion:** Dictionaries store data in key-value pairs.
Reason: Each key is associated with a value.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
52. **Assertion:** Dictionary keys must be unique.
Reason: Duplicate keys overwrite previous values.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
53. **Assertion:** get() is safer than direct key access.
Reason: get() returns None instead of raising an error for missing keys.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
54. **Assertion:** Dictionaries are mutable objects.
Reason: New key-value pairs can be added or modified after creation.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

55. **Assertion:** `clear()` removes only one key-value pair.

Reason: `clear()` removes all key-value pairs from a dictionary.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

Match the Columns

56. Match the Following

Column A

1. `keys()`
2. `values()`
3. `items()`
4. `get()`

Column B

- a. Safe Access
- b. Returns Values
- c. Returns Keys
- d. Returns Pairs

- A) 1-c, 2-b, 3-d, 4-a B) 1-b, 2-c, 3-a, 4-d C) 1-d, 2-a, 3-c, 4-b D) 1-c, 2-d, 3-b, 4-a

57. Match the Following

Column A

1. `pop()`
2. `popitem()`
3. `clear()`
4. `del`

Column B

- a. Remove All
- b. Remove Specific Key
- c. Delete Key
- d. Remove Last Item

- A) 1-b, 2-d, 3-a, 4-c B) 1-a, 2-c, 3-d, 4-b C) 1-c, 2-b, 3-a, 4-d D) 1-b, 2-a, 3-d, 4-c

58. Match the Following

Column A

1. `dict()`
2. `copy()`
3. `update()`
4. `fromkeys()`

Column B

- a. Duplicate
- b. Create Dictionary
- c. Modify Dictionary
- d. Create from Keys

- A) 1-b, 2-a, 3-c, 4-d B) 1-a, 2-b, 3-d, 4-c C) 1-d, 2-a, 3-b, 4-c D) 1-b, 2-c, 3-a, 4-d

Fill in the Blanks

59. Dictionary elements are accessed using _____.

- A) Index Numbers Only B) Keys C) Loops D) Functions

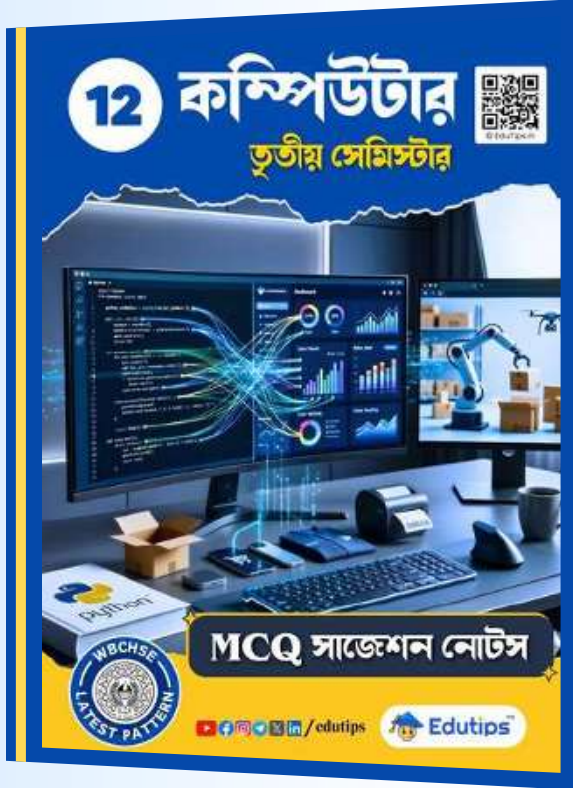
60. The method _____ creates a duplicate copy of a dictionary.

- A) `update()` B) `clear()` C) `copy()` D) `get()`

61. A dictionary stores data in _____ pairs.

- A) Index-Value B) Key-Value C) Row-Column D) Name-Number

Class 12 কম্পিউটার 3rd সেমিস্টার উত্তরসহ স্মার্ট সাজেশন



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TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

PYTHON FUNCTIONS, SCOPE, LAMBDA, MAP, FILTER & REDUCE

Multiple Choice Questions

- Which type of function is `print()` in Python?
A) User-defined Function B) Built-in Function
C) Module Function D) Lambda Function
- Which keyword is used to define a function in Python?
A) `func` B) `define` C) `def` D) `function`
- What is a parameter in a function?
A) A value passed during function call B) A variable specified in the function definition
C) A return value D) A loop variable
- What is an argument?
A) Variable in function definition B) Value supplied during function call
C) Function name D) Return type
- Which type of parameter already contains a predefined value?
A) Positional Parameter B) Keyword Parameter
C) Default Parameter D) Local Parameter
- Which statement is used to send a value back from a function?
A) `print` B) `input` C) `return` D) `output`
- Which scope allows a variable to be accessed throughout a program?
A) Local Scope B) Global Scope C) Function Scope D) Block Scope
- Which of the following is an anonymous function?
A) `def` B) `lambda` C) `map` D) `reduce`
- Which function applies a given operation to every element of an iterable?
A) `filter()` B) `map()` C) `reduce()` D) `sorted()`
- Which function combines elements of a sequence into a single result?
A) `map()` B) `filter()` C) `reduce()` D) `range()`
- Which function selects elements based on a condition?
A) `filter()` B) `map()` C) `reduce()` D) `sorted()`
- Which function arranges elements in ascending order by default?
A) `filter()` B) `map()` C) `reduce()` D) `sorted()`

COMPUTER SCIENCE

13. Which keyword is used to access and modify a global variable inside a function?
 A) public B) global C) static D) extern
14. Which statement about local variables is correct?
 A) Accessible everywhere B) Accessible only inside the function C)
 Accessible only outside the function D) Permanent throughout execution
15. What is recursion?
 A) Function inside a loop B) Function calling itself
 C) Nested function D) Anonymous function
16. Which part of a recursive function stops infinite execution?
 A) Global variable B) Lambda expression C) Base Case D) Return statement
17. What is the main benefit of user-defined functions?
 A) Increase code size B) Code reusability
 C) Increase complexity D) Remove variables
18. Why are lambda functions useful?
 A) For writing multi-line programs B) For creating short anonymous functions
 C) For defining classes D) For creating modules
19. Which library provides the reduce() function in Python?
 A) math B) statistics C) functools D) random
20. Which function is commonly used with lambda to transform data?
 A) filter() B) map() C) reduce() D) all()

Code-Based MCQs

21. What will be the output?

```
def f(x=5):
    return x*2
print(f())
```

- A) 5 B) 10 C) Error D) None

22. What will be the output?

```
x=10
def f():
    x=5
    f()
    print(x)
```

- A) 5 B) 10 C) Error D) None

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

23. What will be the output?

```
print(list(map(lambda x:x*2,[1,2,3])))
```

A) [1,2,3]

B) [2,4,6]

C) [1,4,9]

D) Error

24. What will be the output?

```
from functools import reduce
print(reduce(lambda x,y:x+y,[1,2,3]))
```

A) 6

B) 5

C) 3

D) Error

25. What will be the output?

```
print(list(filter(lambda x:x>2,[1,2,3,4])))
```

A) [1,2]

B) [3,4]

C) [2,3]

D) Error

26. What will be the output?

```
def add(a,b):
    return a+b
print(add(2,3))
```

A) 5

B) 6

C) Error

D) None

27. What will be the output?

```
def f(a,b=2):
    return a*b
print(f(3))
```

A) 6

B) 5

C) 3

D) Error

28. What will be the output?

```
x=5
def f():
    global x
    x=10
    f()
    print(x)
```

A) 5

B) 10

C) Error

D) None

29. What will be the output?

```
print(sorted([3,1,2]))
```

A) [1,2,3]

B) [3,2,1]

C) Error

D) None

30. What will be the output?

```
def fact(n):
    if n==1:
        return 1
    return n*fact(n-1)
print(fact(3))
```

A) 3

B) 6

C) 9

D) Error

COMPUTER SCIENCE

31. What will be the output?

```
f=lambda x:x+1
print(f(5))
```

- A) 5 B) 6 C) Error D) None

32. What will be the output?

```
def f(x):
    return x
print(f())
```

- A) None B) Error C) 0 D) 1

33. What will be the output?

```
def f(a,b,c=3):
    return a+b+c
print(f(1,2))
```

- A) 3 B) 6 C) Error D) None

34. What will be the output?

```
print(list(filter(lambda x:x%2==0,[1,2,3,4])))
```

- A) [1,3] B) [2,4] C) [1,2] D) Error

35. What will be the output?

```
from functools import reduce
print(reduce(lambda x,y:x*y,[1,2,3,4]))
```

- A) 10 B) 24 C) 6 D) Error

36. What will be the output?

```
def greet():
    print("Hello")
greet()
```

- A) Hello B) greet C) None D) Error

37. What will be the output?

```
def f():
    return 10
print(f())
```

- A) 10 B) f C) None D) Error

38. What will be the output?

```
print(list(map(lambda x:x*x,[1,2,3])))
```

- A) [1,2,3] B) [1,4,9] C) [2,4,6] D) Error

39. What will be the output?

```
print(list(filter(lambda x:x<5,[3,5,7,1])))
```

- A) [3,1] B) [5,7] C) [3,5] D) Error

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

40. What will be the output?

```
def f(a=10):
    return a
print(f(5))
```

 A) 10 B) 5 C) Error D) None
41. A programmer wants to avoid writing the same code repeatedly. What should be used?
 A) Loop B) Function C) Variable D) Operator
42. Which type of function is most suitable for a one-line calculation?
 A) Recursive Function B) Lambda Function C) Module Function D) Nested Function
43. A company needs to calculate salaries for thousands of employees using the same formula. Which concept is most useful?
 A) Recursion B) Functions C) Exception Handling D) Strings
44. Which function is best suited to double every number in a list?
 A) filter() B) reduce() C) map() D) sorted()
45. Which function should be used to keep only even numbers from a list?
 A) map() B) reduce() C) filter() D) sorted()
46. Which function is useful when calculating the total of all values in a list?
 A) map() B) filter() C) reduce() D) lambda
47. Why is a base case necessary in recursion?
 A) To increase speed B) To stop recursive calls
 C) To declare variables D) To define functions
48. When should global variables be used?
 A) Never B) Only when data must be shared across functions
 C) Inside loops only D) For recursion only
49. Which argument type improves readability of function calls?
 A) Positional Argument B) Keyword Argument C) Default Argument D) Local Argument
50. Which feature allows functions to work even when some arguments are omitted?
 A) Recursion B) Lambda C) Default Parameters D) Global Variables

Assertion and Reasoning

51. **Assertion:** Functions improve code reusability.
Reason: A function can be called multiple times from different places in a program.
 A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
 B) Both are true, but Reason does not explain Assertion.
 C) Assertion is true, Reason is false.
 D) Assertion is false, Reason is true.

COMPUTER SCIENCE

52. **Assertion:** Lambda functions are anonymous functions.
Reason: Lambda functions are defined without using the def keyword.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
53. **Assertion:** Local variables can be accessed outside the function in which they are declared.
Reason: Local variables exist only within their function scope.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
54. **Assertion:** filter() transforms every element of a list.
Reason: filter() selects elements that satisfy a condition.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.
55. **Assertion:** Recursion requires a base case.
Reason: Without a base case, recursion may continue indefinitely.
A) Both Assertion and Reason are true, and Reason correctly explains Assertion.
B) Both are true, but Reason does not explain Assertion.
C) Assertion is true, Reason is false.
D) Assertion is false, Reason is true.

Match the Columns

56. Match the Following

Column A	Column B
1. Built-in Function	a. Anonymous
2. User-defined Function	b. print()
3. Lambda Function	c. def
4. Module Function	d. math.sqrt()
A) 1-b, 2-c, 3-a, 4-d	B) 1-c, 2-b, 3-d, 4-a
C) 1-b, 2-a, 3-c, 4-d	D) 1-d, 2-c, 3-a, 4-b

57. Match the Following

Column A	Column B
1. map()	a. Single Result
2. filter()	b. Apply Function
3. reduce()	c. Select Elements
4. sorted()	d. Arrange Data
A) 1-b, 2-c, 3-a, 4-d	B) 1-c, 2-b, 3-d, 4-a
C) 1-a, 2-c, 3-b, 4-d	D) 1-b, 2-d, 3-a, 4-c

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

58. Match the Following

Column A

1. Positional Argument
2. Default Argument
3. Keyword Argument
4. Return

Column B

- a. Sends Value
- b. Order Matters
- c. Named Argument
- d. Has Default Value

A) 1-b, 2-d, 3-c, 4-a

B) 1-d, 2-b, 3-a, 4-c

C) 1-b, 2-c, 3-d, 4-a

D) 1-a, 2-d, 3-b, 4-c

Fill in the Blanks

59. A function defined by the programmer is called a _____ function.

A) Built-in

B) User-defined

C) Lambda

D) Module

60. A function that calls itself is known as _____.

A) Mapping

B) Filtering

C) Recursion

D) Sorting

Answer Key

Q	Ans	Q	Ans	Q	Ans
1	B	21	B	41	B
2	C	22	B	42	B
3	B	23	B	43	B
4	B	24	A	44	C
5	C	25	B	45	C
6	C	26	A	46	C
7	B	27	A	47	B
8	B	28	B	48	B
9	B	29	A	49	B
10	C	30	B	50	C
11	A	31	B	51	A
12	D	32	B	52	A
13	B	33	B	53	D
14	B	34	B	54	D
15	B	35	B	55	A
16	C	36	A	56	A
17	B	37	A	57	A
18	B	38	B	58	A
19	C	39	A	59	B
20	B	40	B	60	C

COMPUTER SCIENCE

RECURSION

61. What is recursion in Python?
 - A) A loop inside a function
 - B) A function calling itself
 - C) A function inside another function
 - D) A lambda function
62. Which component is essential in every recursive function?
 - A) Global variable
 - B) Loop
 - C) Base case
 - D) Lambda expression
63. What happens if a recursive function has no base case?
 - A) Faster execution
 - B) Infinite recursion leading to an error
 - C) Returns 0
 - D) Returns None
64. Which error is most likely caused by excessive recursion?
 - A) TypeError
 - B) ValueError
 - C) RecursionError
 - D) IndexError
65. Which problem is commonly solved using recursion?
 - A) Factorial calculation
 - B) Variable declaration
 - C) String printing only
 - D) Importing modules
66. In recursion, each function call is stored in the _____.
 - A) Queue
 - B) Stack
 - C) Array
 - D) Dictionary
67. Which statement about recursion is correct?
 - A) Every recursive problem can be solved only by recursion
 - B) Recursion always uses less memory than loops
 - C) Recursion can often be replaced by iteration
 - D) Recursion does not require a stopping condition
68. What is tail recursion?
 - A) Recursion with no return statement
 - B) Recursive call is the last operation performed
 - C) Recursion using loops
 - D) Recursion with multiple functions
69. Which traversal technique in trees commonly uses recursion?
 - A) Bubble Sort
 - B) Binary Search
 - C) Tree Traversal
 - D) Hashing
70. Which of the following is a recursive definition?
 - A) n^2
 - B) $n + 5$
 - C) $\text{factorial}(n) = n \times \text{factorial}(n-1)$
 - D) $n / 2$

TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

Code-Based Recursion Questions

71. What will be the output?

```
def fact(n):
    if n == 1:
        return 1
    return n * fact(n-1)
print(fact(4))
```

- A) 24 B) 16 C) 12 D) 4

72. What will be the output?

```
def fun(n):
    if n == 0:
        return
    print(n, end=" ")
    fun(n-1)
fun(3)
```

- A) 1 2 3 B) 3 2 1 C) 3 2 D) Error

73. What will be the output?

```
def fun(n):
    if n == 0:
        return
    fun(n-1)
    print(n, end=" ")
fun(3)
```

- A) 3 2 1 B) 1 2 3 C) 1 2 D) Error

74. What will be the output?

```
def sum_n(n):
    if n == 1:
        return 1
    return n + sum_n(n-1)
print(sum_n(4))
```

- A) 10 B) 24 C) 16 D) 8

75. What will be the output?

```
def fun(n):
    if n <= 1:
        return n
    return fun(n-1) + fun(n-2)
print(fun(5))
```

- A) 3 B) 5 C) 8 D) 13

COMPUTER SCIENCE

76. What will be the output?
- ```
def f(n):
 if n == 0:
 return 0
 return 1 + f(n-1)
print(f(4))
```
- A) 0                      B) 1                      C) 4                      D) 5
77. What will be the output?
- ```
def power(a,b):
    if b == 0:
        return 1
    return a * power(a,b-1)
print(power(2,3))
```
- A) 6 B) 8 C) 9 D) 16
78. What will happen?
- ```
def f(n):
 return f(n-1)
f(5)
```
- A) Returns 0                      B) Returns 5                      C) RecursionError                      D) SyntaxError
79. A programmer wants to calculate factorials for different numbers using a mathematical definition. Which approach is most suitable?
- A) Lambda Function                      B) Recursion                      C) Filter Function                      D) Sorting
80. Which real-life structure resembles recursive processing?
- A) Stack of plates                      B) Array                      C) Dictionary                      D) Variable
81. Which problem naturally fits a recursive solution?
- A) Exploring folders and subfolders                      B) Printing a message once  
C) Importing a module                      D) Declaring variables
82. Why should recursion be used carefully?
- A) It cannot solve problems  
B) It may consume additional memory due to function calls  
C) It avoids function calls  
D) It removes variables

### Assertion–Reasoning Questions

83. **Assertion:** Every recursive function should have a base case.  
**Reason:** The base case prevents infinite recursive calls.
- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason is not the correct explanation.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

**84. Assertion: Recursion uses the call stack.**

**Reason: Each recursive call creates a new function activation record.**

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason is not the correct explanation.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

**85. Assertion: Recursive solutions are always faster than iterative solutions.**

**Reason: Recursive functions require function-call overhead.**

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason is not the correct explanation.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

### Fill in the Blanks

**86. A function that calls itself is known as \_\_\_\_\_.**

- A) Mapping                      B) Filtering                      C) Recursive Function                      D) Lambda Function

**87. The stopping condition in recursion is called the \_\_\_\_\_.**

- A) Loop Condition                      B) Base Case                      C) Global Case                      D) Exit Variable

**88. Recursive function calls are stored in the \_\_\_\_\_.**

- A) Queue                      B) Array                      C) Stack                      D) List

**89. The process of solving a problem by breaking it into smaller versions of the same problem is called \_\_\_\_\_.**

- A) Iteration                      B) Recursion                      C) Mapping                      D) Filtering

**90. The factorial of 5 (5!) is \_\_\_\_\_.**

- A) 25                      B) 60                      C) 120                      D) 720

### Recursion Questions (61–90) – Answer Key

| Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans |
|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|
| 61 | B   | 62 | C   | 63 | B   | 64 | C   | 65 | A   | 66 | B   |
| 67 | C   | 68 | B   | 69 | C   | 70 | C   | 71 | A   | 72 | B   |
| 73 | B   | 74 | A   | 75 | B   | 76 | C   | 77 | B   | 78 | C   |
| 79 | B   | 80 | A   | 81 | A   | 82 | B   | 83 | A   | 84 | A   |
| 85 | D   | 86 | C   | 87 | B   | 88 | C   | 89 | B   | 90 | C   |



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## COMPUTER SCIENCE

### PYTHON MODULES AND LIBRARIES

#### Multiple Choice Questions

1. Which keyword is used to import a module in Python?  
A) include                      B) import                      C) using                      D) require
2. Which statement imports only the sqrt() function from the math module?  
A) import math                      B) from math import sqrt  
C) include math                      D) using math
3. Which module provides mathematical functions and constants?  
A) random                      B) statistics                      C) math                      D) os
4. What is the approximate value of math.pi?  
A) 2.71                      B) 3.14                      C) 1.41                      D) 0
5. Which function is used to find the square root of a number?  
A) pow()                      B) sqrt()                      C) square()                      D) root()
6. Which function returns the smallest integer greater than or equal to a given number?  
A) floor()                      B) ceil()                      C) round()                      D) int()
7. Which function returns the largest integer less than or equal to a given number?  
A) ceil()                      B) floor()                      C) abs()                      D) pow()
8. Which function returns the absolute value of a number?  
A) fabs()                      B) absval()                      C) mod()                      D) square()
9. Which module is used for generating random numbers?  
A) math                      B) random                      C) statistics                      D) os
10. Which function is used to calculate the average of a dataset?  
A) median()                      B) mean()                      C) mode()                      D) sum()
11. Which function returns the middle value of a dataset?  
A) mean()                      B) median()                      C) mode()                      D) range()
12. Which function returns the most frequently occurring value?  
A) mode()                      B) median()                      C) mean()                      D) fabs()
13. Which module is used for statistical calculations?  
A) random                      B) math                      C) statistics                      D) os

**TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS**
**14. Why are modules used in Python?**

- |                           |                          |
|---------------------------|--------------------------|
| A) To increase complexity | B) To promote code reuse |
| C) To remove variables    | D) To slow execution     |

**15. What is the advantage of from module import function?**

- |                        |                                         |
|------------------------|-----------------------------------------|
| A) Avoids module usage | B) Allows direct access to the function |
| C) Deletes the module  | D) Increases program size               |

**16. Why is the random module useful?**

- |                  |                             |
|------------------|-----------------------------|
| A) Sorting data  | B) Generating random values |
| C) File handling | D) Mathematical constants   |

**17. Why is the statistics module commonly used?**

- |             |                  |               |                 |
|-------------|------------------|---------------|-----------------|
| A) Graphics | B) Data analysis | C) Networking | D) Loop control |
|-------------|------------------|---------------|-----------------|

**18. Which module is most suitable for trigonometric calculations?**

- |           |               |         |           |
|-----------|---------------|---------|-----------|
| A) random | B) statistics | C) math | D) string |
|-----------|---------------|---------|-----------|

**19. Which function is used to calculate powers?**

- |           |          |            |           |
|-----------|----------|------------|-----------|
| A) sqrt() | B) pow() | C) floor() | D) mean() |
|-----------|----------|------------|-----------|

**20. Which function initializes the random number generator?**

- |           |              |             |            |
|-----------|--------------|-------------|------------|
| A) seed() | B) randint() | C) random() | D) range() |
|-----------|--------------|-------------|------------|

**21. What will be the output?**

```
import math
```

```
print(math.sqrt(16))
```

- |      |      |      |          |
|------|------|------|----------|
| A) 2 | B) 4 | C) 8 | D) Error |
|------|------|------|----------|

**22. What will be the output?**

```
from math import pi
```

```
print(pi)
```

- |         |            |         |          |
|---------|------------|---------|----------|
| A) 2.71 | B) 3.14... | C) 1.41 | D) Error |
|---------|------------|---------|----------|

**23. What will be the output?**

```
import math
```

```
print(math.ceil(4.2))
```

- |      |      |        |          |
|------|------|--------|----------|
| A) 4 | B) 5 | C) 4.2 | D) Error |
|------|------|--------|----------|

**24. What will be the output?**

```
import math
```

```
print(math.floor(4.8))
```

- |      |      |        |          |
|------|------|--------|----------|
| A) 5 | B) 4 | C) 4.8 | D) Error |
|------|------|--------|----------|

## COMPUTER SCIENCE

62. The method \_\_\_\_\_ returns all keys of a dictionary.  
A) values() B) items() C) keys() D) get()
63. The method \_\_\_\_\_ returns all values stored in a dictionary.  
A) values() B) keys() C) items() D) get()
64. The function \_\_\_\_\_ returns the largest key in a dictionary.  
A) min() B) len() C) max() D) sorted()
65. The function \_\_\_\_\_ returns the smallest key in a dictionary.  
A) max() B) min() C) len() D) sum()
66. The method \_\_\_\_\_ removes a specified key and returns its value.  
A) clear() B) get() C) pop() D) copy()
67. The function \_\_\_\_\_ returns dictionary keys in sorted order.  
A) sort() B) arrange() C) sorted() D) order()
68. The method \_\_\_\_\_ inserts a key with a default value if the key does not exist.  
A) update() B) setdefault() C) copy() D) get()
69. The operator \_\_\_\_\_ is used to check whether a key exists in a dictionary.  
A) = B) is C) in D) not
70. Dictionaries in Python are \_\_\_\_\_ objects because their contents can be modified.  
A) Immutable B) Mutable C) Constant D) Static

### Answer Key

| Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans |
|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|
| 1  | C   | 2  | B   | 3  | C   | 4  | B   | 5  | C   | 6  | A   |
| 7  | C   | 8  | A   | 9  | A   | 10 | A   | 11 | C   | 12 | A   |
| 13 | B   | 14 | C   | 15 | C   | 16 | A   | 17 | B   | 18 | A   |
| 19 | B   | 20 | C   | 21 | B   | 22 | B   | 23 | C   | 24 | A   |
| 25 | B   | 26 | B   | 27 | B   | 28 | B   | 29 | A   | 30 | B   |
| 31 | C   | 32 | A   | 33 | B   | 34 | A   | 35 | A   | 36 | A   |
| 37 | B   | 38 | A   | 39 | C   | 40 | C   | 41 | C   | 42 | B   |
| 43 | C   | 44 | B   | 45 | B   | 46 | B   | 47 | A   | 48 | C   |
| 49 | C   | 50 | C   | 51 | A   | 52 | A   | 53 | A   | 54 | A   |
| 55 | D   | 56 | A   | 57 | A   | 58 | A   | 59 | B   | 60 | C   |
| 61 | B   | 62 | C   | 63 | A   | 64 | C   | 65 | B   |    |     |
| 66 | C   | 67 | C   | 68 | B   | 69 | C   | 70 | B   |    |     |

## COMPUTER SCIENCE

25. What will be the output?

```
import random
print(random.randint(1,3))
```

- A) Always 1                      B) Always 3  
C) Any integer between 1 and 3                      D) Error

26. What will be the output?

```
import math
print(math.pow(2,3))
```

- A) 6                      B) 8.0                      C) 9                      D) Error

27. What will be the output?

```
import math
print(math.fabs(-5))
```

- A) -5                      B) 5.0                      C) 0                      D) Error

28. What will be the output?

```
import statistics
print(statistics.mean([1,2,3]))
```

- A) 2                      B) 3                      C) 1                      D) Error

29. What will be the output?

```
import statistics
print(statistics.median([1,3,2]))
```

- A) 1                      B) 2                      C) 3                      D) Error

30. What will be the output?

```
import statistics
print(statistics.mode([1,2,2,3]))
```

- A) 1                      B) 2                      C) 3                      D) Error

31. What will be the output?

```
import random
print(random.random())
```

- A) Integer                      B) Float between 0 and 1  
C) String                      D) Error

32. What will be the output?

```
from math import sqrt
print(sqrt(9))
```

- A) 3.0                      B) 9                      C) Error                      D) None



## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

33. What will be the output?

```
import math
print(math.sin(0))
```

- A) 0.0                      B) 1                      C) -1                      D) Error

34. What will be the output?

```
import math
print(math.cos(0))
```

- A) 0                      B) 1.0                      C) -1                      D) Error

35. What will be the output?

```
import math
print(math.tan(0))
```

- A) 0.0                      B) 1                      C) Undefined                      D) Error

36. A scientist needs the value of  $\pi$  for calculations. Which module should be used?

- A) random                      B) statistics                      C) math                      D) string

37. A game requires random dice rolls. Which module is most suitable?

- A) math                      B) random                      C) statistics                      D) os

38. A teacher wants to find the average marks of students. Which function is appropriate?

- A) mode()                      B) median()                      C) mean()                      D) fabs()

39. Which function is most suitable for rounding 5.2 upward?

- A) floor()                      B) ceil()                      C) mean()                      D) sqrt()

40. Which function should be used to find the square root of 81?

- A) root()                      B) square()                      C) sqrt()                      D) pow()

41. Which module helps analyze survey data statistically?

- A) statistics                      B) random                      C) os                      D) string

42. A lottery application requires unpredictable numbers. Which module is most useful?

- A) math                      B) statistics                      C) random                      D) sys

43. Which import style reduces repeated use of module names?

- A) import math                      B) from math import sqrt  
C) import statistics                      D) import random

44. Which function helps determine the most common value in a dataset?

- A) median()                      B) mean()                      C) mode()                      D) sqrt()



## COMPUTER SCIENCE

45. Which function is useful for calculating compound powers?

- A) ceil()                      B) pow()                      C) floor()                      D) fabs()

### Assertion and Reasoning

46. **Assertion:** Modules improve code reusability.

**Reason:** Modules allow programmers to organize related functions together.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason does not explain Assertion.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

47. **Assertion:** The random module generates truly unpredictable numbers.

**Reason:** Python uses pseudo-random number generation.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason does not explain Assertion.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

48. **Assertion:** from math import sqrt allows direct use of sqrt().

**Reason:** The function name is imported directly into the current namespace.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason does not explain Assertion.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

49. **Assertion:** The statistics module can calculate mean, median, and mode.

**Reason:** These functions are provided within the statistics library.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason does not explain Assertion.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.

50. **Assertion:** math.floor(5.9) returns 6.

**Reason:** floor() always rounds numbers upward.

- A) Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B) Both are true, but Reason does not explain Assertion.  
C) Assertion is true, Reason is false.  
D) Assertion is false, Reason is true.



## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

### Section E: Match the Columns

#### 51. Match the following

| Column A              | Column B              |
|-----------------------|-----------------------|
| 1. math.pi            | a. Round down         |
| 2. sqrt()             | b. Constant           |
| 3. ceil()             | c. Square root        |
| 4. floor()            | d. Round up           |
| A) 1-b, 2-c, 3-d, 4-a | B) 1-c, 2-b, 3-a, 4-d |
| C) 1-b, 2-d, 3-c, 4-a | D) 1-a, 2-c, 3-d, 4-b |

#### 52. Match the following

| Column A              | Column B                 |
|-----------------------|--------------------------|
| 1. random()           | a. Integer range         |
| 2. randint()          | b. Initialise generator  |
| 3. randrange()        | c. Step range            |
| 4. seed()             | d. Float between 0 and 1 |
| A) 1-d, 2-a, 3-c, 4-b | B) 1-a, 2-d, 3-b, 4-c    |
| C) 1-c, 2-a, 3-d, 4-b | D) 1-d, 2-c, 3-a, 4-b    |

#### 53. Match the following

| Column A              | Column B              |
|-----------------------|-----------------------|
| 1. mean()             | a. Most frequent      |
| 2. median()           | b. Average            |
| 3. mode()             | c. Middle value       |
| 4. statistics         | d. Module             |
| A) 1-b, 2-c, 3-a, 4-d | B) 1-a, 2-b, 3-c, 4-d |
| C) 1-d, 2-a, 3-b, 4-c | D) 1-b, 2-d, 3-a, 4-c |

#### 54. Match the following

| Column A               | Column B              |
|------------------------|-----------------------|
| 1. import math         | a. Direct use         |
| 2. from math import pi | b. Specific import    |
| 3. math.sqrt()         | c. Using module       |
| 4. sqrt()              | d. Full import        |
| A) 1-d, 2-b, 3-c, 4-a  | B) 1-b, 2-d, 3-a, 4-c |
| C) 1-d, 2-c, 3-b, 4-a  | D) 1-a, 2-b, 3-d, 4-c |

#### 55. Match the following

| Column A              | Column B              |
|-----------------------|-----------------------|
| 1. sin()              | a. Power              |
| 2. cos()              | b. Trigonometry       |
| 3. tan()              | c. Trigonometry       |
| 4. pow()              | d. Trigonometry       |
| A) 1-b, 2-c, 3-d, 4-a | B) 1-a, 2-b, 3-c, 4-d |
| C) 1-d, 2-c, 3-a, 4-b | D) 1-c, 2-d, 3-b, 4-a |

## COMPUTER SCIENCE

### Fill in the Blanks

56. The \_\_\_\_\_ keyword is used to import modules.  
A) using B) import C) include D) require
57. The function \_\_\_\_\_ returns the square root of a number.  
A) root() B) square() C) sqrt() D) power()
58. The module \_\_\_\_\_ generates random numbers.  
A) statistics B) math C) random D) string
59. The function \_\_\_\_\_ returns the average of a dataset.  
A) mode() B) mean() C) median() D) fabs()
60. The constant \_\_\_\_\_ represents the value of  $\pi$ .  
A) math.pi B) math.sqrt C) math.pow D) math.floor

### Answer Key

| Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans |
|----|-----|----|-----|----|-----|----|-----|
| 1  | B   | 16 | B   | 31 | B   | 46 | A   |
| 2  | B   | 17 | B   | 32 | A   | 47 | D   |
| 3  | C   | 18 | C   | 33 | A   | 48 | A   |
| 4  | B   | 19 | B   | 34 | B   | 49 | A   |
| 5  | B   | 20 | A   | 35 | A   | 50 | D   |
| 6  | B   | 21 | B   | 36 | C   | 51 | A   |
| 7  | B   | 22 | B   | 37 | B   | 52 | A   |
| 8  | A   | 23 | B   | 38 | C   | 53 | A   |
| 9  | B   | 24 | B   | 39 | B   | 54 | A   |
| 10 | B   | 25 | C   | 40 | C   | 55 | A   |
| 11 | B   | 26 | B   | 41 | A   | 56 | B   |
| 12 | A   | 27 | B   | 42 | C   | 57 | C   |
| 13 | C   | 28 | A   | 43 | B   | 58 | C   |
| 14 | B   | 29 | B   | 44 | C   | 59 | B   |
| 15 | B   | 30 | B   | 45 | B   | 60 | A   |

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

### PYTHON EXCEPTION HANDLING

#### Section A: Multiple Choice Questions (MCQ)

- Which Python block is primarily used to monitor code that may generate an exception?  
A) except      B) try      C) finally      D) raise
- Which block is used to handle an exception after it occurs?  
A) try      B) raise      C) except      D) else
- Which block executes regardless of whether an exception occurs?  
A) try      B) except      C) else      D) finally
- What is the most likely consequence of an unhandled exception?  
A) Program continues normally      B) Program terminates abruptly  
C) Program ignores the error      D) Program enters an infinite loop
- Which keyword is used to generate an exception intentionally?  
A) throw      B) except      C) raise      D) error
- Why is exception handling used in Python programs?  
A) To increase memory usage      B) To prevent unexpected program termination  
C) To reduce code readability      D) To speed up execution
- Which block is suitable for releasing resources such as files or database connections?  
A) try      B) except      C) else      D) finally
- In a try-except structure, which block executes first?  
A) finally      B) except      C) try      D) else
- What is a recommended practice in exception handling?  
A) Catch every exception using a generic except      B) Ignore exceptions  
C) Handle specific exceptions whenever possible      D) Avoid using finally
- What type of errors occur while a program is running?  
A) Syntax Errors      B) Runtime Errors      C) Logical Errors      D) Compilation Errors

#### Section B: Code-Based MCQs

- What will be the output?

```
try:
 print(10/0)
except:
 print("Error")
```

- A) 0      B) Error      C) 10      D) Program Crashes

**COMPUTER SCIENCE**

12. What will be the output?

```
try:
 print(10/2)
except:
 print("Error")
```

- A) Error                      B) 5.0                      C) 0                      D) Program Crashes

13. What will be the output?

```
try:
 print(10/0)
except:
 print("Handled")
finally:
 print("Done")
```

- A) Handled Done                      B) Done                      C) Handled                      D) Error

14. What will be the output?

```
try:
 print("Hello")
finally:
 print("Done")
```

- A) Hello                      B) Done                      C) Hello Done                      D) Error

15. What will be the output?

```
try:
 x = int("abc")
except:
 print("Invalid")
```

- A) abc                      B) Invalid                      C) Error                      D) None

16. What will be the output?

```
try:
 x = int("10")
 print(x)
except:
 print("Error")
```

- A) 10                      B) Error                      C) None                      D) Crash

17. What will be the output?

```
try:
 print(5/0)
except ZeroDivisionError:
 print("Divide Error")
```

- A) Error                      B) Divide Error                      C) 0                      D) Crash



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Wp0 o t o



Wp0 o s o p

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

18. What will be the output?

```
try:
 print("Hi")
except:
 print("Error")
finally:
 print("End")
```

- A) Hi                      B) Hi End                      C) Error                      D) End

19. What will be the output?

```
try:
 x = int("abc")
except ValueError:
 print("Value Error")
```

- A) abc                      B) Value Error                      C) Error                      D) None

20. What will be the output?

```
try:
 x = 5
except:
 print("Error")
else:
 print("No Error")
```

- A) Error                      B) No Error                      C) 5                      D) None

21. What will be the output?

```
try:
 print("A")
 print(5/0)
except:
 print("B")
 print("C")
```

- A) A B C                      B) A C                      C) B C                      D) Error

22. What will be the output?

```
try:
 print("Python")
except:
 print("Error")
else:
 print("Success")
```

- A) Python                      B) Success                      C) Python Success                      D) Error



## COMPUTER SCIENCE

23. A user enters text instead of a number in a calculator program. Which exception is most likely to occur?  
A) TypeError                      B) ValueError                      C) IndexError                      D) KeyError
24. A program attempts to open a file that does not exist. Which exception may occur?  
A) FileNotFoundError    B) ValueError                      C) NameError                      D) TypeError
25. Which exception should be handled when dividing a number by zero?  
A) ValueError                      B) IndexError                      C) ZeroDivisionError    D) KeyError
26. A student wants to ensure that a file is closed even if an error occurs. Which block should be used?  
A) try                                      B) except                                      C) finally                                      D) raise
27. Which approach improves software reliability?  
A) Ignoring all exceptions  
B) Using exception handling for expected runtime errors  
C) Using only comments  
D) Removing validation checks
28. Which exception is likely when accessing a non-existing dictionary key?  
A) IndexError                      B) KeyError                      C) NameError                      D) TypeError
29. Which situation requires exception handling the most?  
A) Displaying a message                      B) User input validation  
C) Writing comments                      D) Declaring variables
30. A banking application must prevent crashes due to invalid transactions. Which feature is most appropriate?  
A) Looping                      B) Exception Handling    C) Variables                      D) Functions

### Assertion and Reasoning

31. **Assertion (A):** Exception handling prevents abrupt program termination.  
**Reason (R):** Exceptions can be caught and handled using try-except blocks.  
A) Both A and R are true, and R is the correct explanation of A.  
B) Both A and R are true, but R is not the correct explanation of A.  
C) A is true, but R is false.  
D) A is false, but R is true.



## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

**32. Assertion (A): The finally block executes whether an exception occurs or not.**

**Reason (R): The finally block is commonly used for cleanup activities.**

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.

**33. Assertion (A): All runtime errors can be prevented completely.**

**Reason (R): Exception handling helps manage runtime errors.**

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.

**34. Assertion (A): The raise statement can be used to generate exceptions manually.**

**Reason (R): Programmers may enforce business rules using custom exceptions.**

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.

**35. Assertion (A): The else block executes when no exception occurs in the try block.**

**Reason (R): The else block is executed only after the except block.**

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.

### Match the Columns

**36. Match Column A with Column B**

#### Column A

#### Column B

- |            |                        |
|------------|------------------------|
| 1. try     | a. Executes always     |
| 2. except  | b. Generates exception |
| 3. finally | c. Handles exception   |
| 4. raise   | d. Monitors risky code |

- A) 1-d, 2-c, 3-a, 4-b    B) 1-c, 2-d, 3-b, 4-a    C) 1-d, 2-a, 3-c, 4-b    D) 1-b, 2-c, 3-a, 4-d

**COMPUTER SCIENCE**
**37. Match the Exception with the Situation**
**Column A**
**Column B**

- |                      |                             |
|----------------------|-----------------------------|
| 1. ZeroDivisionError | a. Accessing a missing file |
| 2. ValueError        | b. Dividing by zero         |
| 3. FileNotFoundError | c. Invalid type conversion  |
| 4. IndexError        | d. Invalid list position    |

- A) 1-b, 2-c, 3-a, 4-d    B) 1-c, 2-b, 3-d, 4-a    C) 1-a, 2-c, 3-b, 4-d    D) 1-b, 2-d, 3-a, 4-c

**Fill in the Blanks (Choose the Correct Answer)**

38. Exception handling helps to \_\_\_\_\_ unexpected program termination.  
A) increase    B) prevent    C) delay    D) create
39. The block used to catch exceptions is \_\_\_\_\_.  
A) try    B) raise    C) except    D) finally
40. The block that always executes is \_\_\_\_\_.  
A) try    B) except    C) else    D) finally
41. The keyword used to generate an exception explicitly is \_\_\_\_\_.  
A) error    B) raise    C) throw    D) catch
42. Errors that occur during program execution are called \_\_\_\_\_ errors.  
A) syntax    B) logical    C) runtime    D) compilation
43. The \_\_\_\_\_ block executes only when no exception occurs in the try block.  
A) except    B) finally    C) else    D) raise
44. Dividing a number by zero raises a \_\_\_\_\_ exception.  
A) ValueError    B) TypeError    C) ZeroDivisionError    D) NameError
45. A file that cannot be found may generate a \_\_\_\_\_ exception.  
A) FileNotFoundError    B) IndexError    C) ValueError    D) KeyError
46. Converting the string "abc" to an integer raises a \_\_\_\_\_ exception.  
A) TypeError    B) ValueError    C) IndexError    D) KeyError
47. Accessing an invalid list index may raise an \_\_\_\_\_ exception.  
A) NameError    B) ValueError    C) IndexError    D) TypeError
48. Exception handling improves the \_\_\_\_\_ of a program.  
A) reliability    B) size    C) complexity    D) memory usage

**TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS**

49. The purpose of the try block is to contain \_\_\_\_\_ code.  
 A) repeated                      B) risky                      C) unnecessary                      D) commented
50. The else block is executed after the try block only when \_\_\_\_\_.  
 A) an exception occurs                      B) the program ends  
 C) no exception occurs                      D) finally executes

**Answer Key**

| Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans |
|----|-----|----|-----|----|-----|----|-----|
| 1  | B   | 14 | C   | 27 | B   | 40 | D   |
| 2  | C   | 15 | B   | 28 | B   | 41 | B   |
| 3  | D   | 16 | A   | 29 | B   | 42 | C   |
| 4  | B   | 17 | B   | 30 | B   | 43 | C   |
| 5  | C   | 18 | B   | 31 | A   | 44 | C   |
| 6  | B   | 19 | B   | 32 | B   | 45 | A   |
| 7  | D   | 20 | B   | 33 | D   | 46 | B   |
| 8  | C   | 21 | A   | 34 | A   | 47 | C   |
| 9  | C   | 22 | C   | 35 | C   | 48 | A   |
| 10 | B   | 23 | B   | 36 | A   | 49 | B   |
| 11 | B   | 24 | A   | 37 | A   | 50 | C   |
| 12 | B   | 25 | C   | 38 | B   |    |     |
| 13 | A   | 26 | C   | 39 | C   |    |     |

**COMPUTER SCIENCE**
**E-COMMERCE**
**Multiple Choice Questions**
**E-Commerce Fundamentals**

1. **What is E-Commerce?**
  - A) Electronic Communication
  - B) Electronic Commerce
  - C) Electronic Computing
  - D) Electronic Connection
2. **E-Commerce mainly involves:**
  - A) Buying and selling goods electronically
  - B) Manufacturing goods
  - C) Transportation only
  - D) Accounting only
3. **Which is a goal of E-Commerce?**
  - A) Increase paperwork
  - B) Reduce market reach
  - C) Improve business efficiency
  - D) Increase manual processing
4. **Which is a technical component of E-Commerce?**
  - A) Internet
  - B) Blackboard
  - C) Printer paper
  - D) Pen drive
5. **Which is a function of E-Commerce?**
  - A) Online transactions
  - B) Offline accounting only
  - C) Manual billing only
  - D) Printing advertisements only
6. **Which is an advantage of E-Commerce?**
  - A) 24×7 availability
  - B) Limited reach
  - C) High paperwork
  - D) Manual processing
7. **Which is a disadvantage of E-Commerce?**
  - A) Global reach
  - B) Security concerns
  - C) Fast transactions
  - D) Convenience
8. **E-Commerce provides access to:**
  - A) Local market only
  - B) Global market
  - C) Village market only
  - D) No market
9. **Which is an application of E-Commerce?**
  - A) Online Banking
  - B) Handwritten Letters
  - C) Traditional Notice Board
  - D) Postal Order Only
10. **E-Business is:**
  - A) Narrower than E-Commerce
  - B) Wider than E-Commerce
  - C) Same as Hardware
  - D) Same as Networking
11. **B2B stands for:**
  - A) Business to Business
  - B) Buyer to Buyer
  - C) Business to Buyer
  - D) Bank to Bank

**TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS**

12. **B2C stands for:**
  - A) Business to Consumer
  - B) Buyer to Customer
  - C) Business to Company
  - D) Bank to Customer
13. **C2C refers to:**
  - A) Customer to Customer
  - B) Consumer to Consumer
  - C) Client to Client
  - D) Both A and B
14. **G2G means:**
  - A) Goods to Goods
  - B) Government to Government
  - C) Group to Group
  - D) Gateway to Gateway
15. **B2G means:**
  - A) Business to Government
  - B) Bank to Government
  - C) Buyer to Group
  - D) Business to Group
16. **C2G means:**
  - A) Consumer to Government
  - B) Company to Government
  - C) Customer to Group
  - D) Consumer to Gateway
17. **P2P stands for:**
  - A) Peer to Peer
  - B) Person to Product
  - C) Product to Product
  - D) Peer to Product
18. **B2A stands for:**
  - A) Business to Administration
  - B) Buyer to Administration
  - C) Business to Agency
  - D) Bank to Administration
19. **C2A stands for:**
  - A) Consumer to Administration
  - B) Customer to Agency
  - C) Consumer to Application
  - D) Customer to Administration
20. **Which model is used by Amazon?**
  - A) B2C
  - B) G2G
  - C) C2G
  - D) P2P
21. **Internet is:**
  - A) Public Network
  - B) Private Network
  - C) Personal Computer
  - D) Database
22. **Intranet is:**
  - A) Internal Network of Organization
  - B) Public Website
  - C) Search Engine
  - D) E-mail
23. **Extranet connects:**
  - A) Internal Users Only
  - B) External Authorized Users
  - C) No Users
  - D) Search Engines Only

## COMPUTER SCIENCE

24. **Internet plays a major role in:**  
A) B2B Applications    B) Manual Sales    C) Paper Records    D) Offline Marketing
25. **Which is a web promotion tool?**  
A) Banner Advertisement    B) Chalk Board  
C) Leaflet Only    D) Fax Machine
26. **A banner is:**  
A) Online Advertisement    B) Payment Method  
C) Database    D) Search Engine
27. **Shopping Bots are used for:**  
A) Price Comparison    B) Printing Bills    C) Banking Only    D) Data Entry
28. **Exchange in web promotion refers to:**  
A) Ad Exchange    B) Currency Exchange Only  
C) Product Exchange Only    D) File Exchange Only
29. **Shopping bots help customers by:**  
A) Comparing Products    B) Increasing Cost  
C) Deleting Data    D) Sending Emails Only
30. **Online advertisements improve:**  
A) Visibility    B) Paperwork    C) Manual Processing    D) Inventory Loss
31. **Electronic Payment System is used for:**  
A) Online Transactions    B) Offline Attendance    C) Manual Records    D) File Storage
32. **Which is an electronic payment method?**  
A) Credit Card    B) Cash Voucher Only    C) Cheque Book Only    D) Stamp Paper
33. **EFT stands for:**  
A) Electronic Fund Transfer    B) Electronic File Transfer  
C) Easy Fund Transfer    D) External Fund Transfer
34. **Credit card payment is an example of:**  
A) Electronic Payment    B) Manual Payment    C) Offline Payment    D) Barter System
35. **Paperless bill reduces:**  
A) Paper Usage    B) Internet Usage    C) Sales    D) Customers
36. **Electronic Cash is:**  
A) Digital Form of Money    B) Printed Currency  
C) Coin    D) Voucher

**TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS**
**37. Modern payment systems include:**

- A) UPI                      B) NFC                      C) Digital Wallets                      D) All of These

**38. Value Exchange System refers to:**

- A) Transfer of Value Between Parties                      B) Product Manufacturing  
C) File Storage                      D) Data Processing

**Internet Marketing**
**39. Personalization in E-Commerce means:**

- A) Customized Experience                      B) Same Content for All  
C) Manual Shopping                      D) Offline Marketing

**40. Internet Marketing mainly helps in:**

- A) Online Promotion                      B) Manual Accounting                      C) Manufacturing                      D) Packaging

**Match the Following**
**41. Match the Following**
**Column A**
**Column B**

- B2B                      Business to Business  
B2C                      Business to Consumer  
C2C                      Consumer to Consumer  
G2G                      Government to Government

- A) a-i, b-ii, c-iii, d-iv                      B) a-ii, b-i, c-iv, d-iii                      C) a-iii, b-iv, c-i, d-ii                      D) a-iv, b-iii, c-ii, d-i

**42. Match the Following**
**Column A**
**Column B**

- Internet                      Public Network  
Intranet                      Internal Network  
Extranet                      Authorized External Access  
Web                      Information System

- A) a-i, b-ii, c-iii, d-iv                      B) a-ii, b-i, c-iv, d-iii                      C) a-iii, b-iv, c-i, d-ii                      D) a-iv, b-iii, c-ii, d-i

**43-55.**

(Continue similarly for)

- Credit Card → Electronic Payment
- EFT → Fund Transfer
- Banner → Advertisement
- Shopping Bot → Price Comparison
- Paperless Bill → Digital Billing

## COMPUTER SCIENCE

- E-Commerce → Online Commerce
- E-Business → Wider Concept
- Personalization → Customized Service
- Internet Marketing → Online Promotion
- Electronic Cash → Digital Money
- P2P → Peer-to-Peer
- C2G → Consumer-to-Government
- B2A → Business-to-Administration

(Each with four matching options as above.)

### Assertion-Reasoning

56. **Assertion (A):** E-Commerce enables global business operations.

**Reason (R):** Internet allows businesses to reach customers worldwide.

A) Both true and R explains A

B) Both true but R does not explain A

C) A true, R false

D) A false, R true

57. **Assertion (A):** Intranet is accessible by everyone.

**Reason (R):** Intranet is a private organizational network.

A) Both true

B) A true, R false

C) A false, R true

D) Both false

58. **Assertion (A):** Credit cards are used in electronic payment systems.

**Reason (R):** They enable online transactions without cash.

A) Both true and R explains A

B) Both true but R not explanation

C) A true, R false

D) A false, R true

59–65. Similar questions on:

- Electronic Cash
- Paperless Billing
- Internet Marketing
- Personalization
- B2B Transactions
- Shopping Bots
- Extranet Usage



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- 1. বৈদ্যুতিক ক্ষেত্র (Electrostatic Field) ☒
- 2. বৈদ্যুতিক বিভা (Electric Potential) ☒
- 3. ধারক ও ধারকত্ব (Capacitor and Capacitance) ☒
- 4. বৈদ্যুতিক প্রবাহ, ওহমের সূত্র ও রোধ (Electric Current, Ohm's Law and Resistance) ☒

### Biology

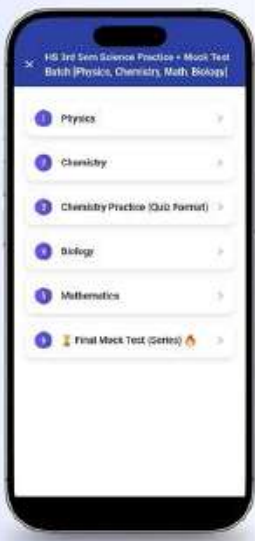
- 1. সঙ্গুলক উদ্ভিদে যৌন জাণ (Sexual Reproduction in Flowering Plants) ☒
- 2. মানবের জাণ (Human Reproduction) ☒
- 3. জাণের স্বাস্থ্য (Reproductive Health) ☒
- 4. কোষ বিভাজন (Cell Division) ☒

### Chemistry

- 1. দ্রবের দ্রবন ক্ষেত্র (Liquid State) ☒
- 2. p-ব্লক উপাদান: গ্রুপ-15 (p-Block Elements: Group-15) ☒
- 3. p-ব্লক উপাদান: গ্রুপ-16 (p-Block Elements: Group-16) ☒
- 4. p-ব্লক উপাদান: গ্রুপ-17 (p-Block Elements: Group-17) ☒

### Mathematics

- 1. সমীকরণ ও সমীকরণ (Relation and Function) ☒
- 2. সমীকরণ (Relation) ☒
- 3. সমীকরণ (Function) ☒
- 4. সমীকরণের উপাদান (Trigonometric Functions of Submultiple Angles) ☒



- ☒ Practice
- ☒ Mock Test
- ☒ Final Test








## Class 12 Sem 3

# উচ্চ মাধ্যমিক তৃতীয় সেমিস্টার

সাইন্সের জন্য স্পেশাল স্টাডি ও প্র্যাকটিস ব্যাচ





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## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

### Fill in the Blanks

Choose the correct option.

66. E-Commerce stands for \_\_\_\_\_.  
 A) Electronic Commerce                      B) Electronic Communication  
 C) Electronic Computer                      D) Electronic Control
67. B2B means \_\_\_\_\_.  
 A) Business to Business    B) Buyer to Buyer                      C) Bank to Bank                      D) Business to Buyer
68. The global public network is called \_\_\_\_\_.  
 A) Internet                      B) Intranet                      C) Extranet                      D) LAN
69. EFT stands for \_\_\_\_\_.  
 A) Electronic Fund Transfer                      B) Electronic File Transfer  
 C) Easy Fund Transfer                      D) External Fund Transfer
70. A \_\_\_\_\_ card is widely used for online payments.  
 A) Credit                      B) Library                      C) Identity                      D) Voter
71. Shopping bots help in \_\_\_\_\_ products.  
 A) Comparing                      B) Manufacturing                      C) Packaging                      D) Printing
72. Online advertising banners are used for \_\_\_\_\_.  
 A) Promotion                      B) Accounting                      C) Storage                      D) Billing
73. A private organizational network is called \_\_\_\_\_.  
 A) Internet                      B) Intranet                      C) Extranet                      D) WAN
74. Extranet allows access to authorized \_\_\_\_\_ users.  
 A) Internal                      B) External                      C) Temporary                      D) Local
75. Electronic cash is a \_\_\_\_\_ form of money.  
 A) Digital                      B) Printed                      C) Metallic                      D) Physical
76. Personalized E-Commerce provides \_\_\_\_\_ experience.  
 A) Customized                      B) Common                      C) Manual                      D) Offline
77. Paperless billing reduces \_\_\_\_\_ consumption.  
 A) Electricity                      B) Paper                      C) Internet                      D) Storage
78. Internet marketing is mainly used for \_\_\_\_\_ products online.  
 A) Promoting                      B) Manufacturing                      C) Storing                      D) Transporting

## COMPUTER SCIENCE

79. P2P stands for \_\_\_\_\_ to Peer.

- A) Person                      B) Public                      C) Product                      D) Private

80. E-Business is \_\_\_\_\_ than E-Commerce.

- A) Narrower                      B) Wider                      C) Equal                      D) Smaller

### Answer Key

| Q.No. | Ans | Q.No. | Ans | Q.No. | Ans | Q.No. | Ans |
|-------|-----|-------|-----|-------|-----|-------|-----|
| 1     | B   | 11    | B   | 21    | A   | 31    | A   |
| 2     | B   | 12    | B   | 22    | B   | 32    | B   |
| 3     | B   | 13    | B   | 23    | A   | 33    | B   |
| 4     | C   | 14    | B   | 24    | B   | 34    | B   |
| 5     | B   | 15    | B   | 25    | B   | 35    | B   |
| 6     | C   | 16    | C   | 26    | B   | 36    | A   |
| 7     | B   | 17    | B   | 27    | A   | 37    | A   |
| 8     | B   | 18    | B   | 28    | B   | 38    | B   |
| 9     | A   | 19    | A   | 29    | B   | 39    | A   |
| 10    | B   | 20    | B   | 30    | B   | 40    | A   |

| Q.No. | Ans                            | Q.No. | Ans                | Q.No. | Ans                 |
|-------|--------------------------------|-------|--------------------|-------|---------------------|
| 41    | a-iii,b-iv,c-i,d-ii            | 55    | Extranet           | 69    | Secure              |
| 42    | a-iii,b-i,c-ii,d-iv            | 56    | Banner             | 70    | Transactions        |
| 43    | a-iii,b-i,c-ii,d-iv            | 57    | B2B                | 71    | Electronic Business |
| 44    | a-ii,b-i,c-iv,d-iii            | 58    | C2C                | 72    | Convenience         |
| 45    | a-iii,b-i,c-ii,d-iv            | 59    | Shopping Bot       | 73    | Marketplace         |
| 46    | A                              | 60    | Personalization    | 74    | Digital             |
| 47    | A                              | 61    | Intranet           | 75    | Online              |
| 48    | B                              | 62    | Electronic Cash    | 76    | Customers           |
| 49    | A                              | 63    | Web Promotion      | 77    | Global              |
| 50    | B                              | 64    | B2C                | 78    | Automation          |
| 51    | E-Commerce                     | 65    | B2G                | 79    | Information         |
| 52    | Internet                       | 66    | Value Exchange     | 80    | Payment Gateway     |
| 53    | Credit Card                    | 67    | Paperless Bill     |       |                     |
| 54    | Electronic Fund Transfer (EFT) | 68    | Internet Marketing |       |                     |

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

### COMPUTER SCIENCE

#### MODEL QUESTION

#### SET - I

1. A student wants to execute a saved Python file (program.py). Which execution mode should be used?

A. Interactive Mode      B. Script Mode      C. Compiler Mode      D. Debug Mode

2. The Python keyword used to define a function is \_\_\_\_\_.

A. function      B. define      C. def      D. fun

3. Which of the following is a mutable data type?

A. String      B. Tuple      C. List      D. Integer

4. Assertion (A): Python uses indentation to define blocks of code.

Reason (R): Python does not require braces {} for block definition.

- A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.      D. A is false, R is true.

5. a = 10  
b = 3  
print(a % b)  
Output is

A. 3      B. 1      C. 0      D. 3.33

6. The operator used to check whether an element exists in a list is \_\_\_\_\_.

A. is      B. =      C. in      D. %

7. Match Column A with Column B.

#### Column A

#### Column B

- |               |                           |
|---------------|---------------------------|
| P. List       | 1. Immutable              |
| Q. Tuple      | 2. Mutable                |
| R. Dictionary | 3. Key-Value Pair         |
| S. String     | 4. Sequence of Characters |

Choose the correct option.

- |                       |                       |
|-----------------------|-----------------------|
| A. P-2, Q-1, R-3, S-4 | B. P-1, Q-2, R-4, S-3 |
| C. P-3, Q-2, R-1, S-4 | D. P-2, Q-4, R-1, S-3 |

## COMPUTER SCIENCE

8.  $x = 5$   
 $y = 2.5$   
 $z = x + y$

The data type of  $z$  is

- A. int                      B. float                      C. complex                      D. bool

9. The explicit conversion of "25" into an integer is done using \_\_\_\_\_.

- A. float()                      B. str()                      C. int()                      D. bool()

10. A student enters marks using input(). To perform arithmetic operations, the input should be converted to

- A. bool                      B. str                      C. int                      D. tuple

11. Assertion (A): A program may execute successfully but still produce an incorrect answer.

Reason (R): Logical errors do not stop program execution.

- A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.  
D. A is false, R is true.

12. Which loop is most suitable when the number of iterations is unknown?

- A. for                      B. while                      C. if                      D. range()

13. The statement used to skip the current iteration of a loop is \_\_\_\_\_.

- A. stop                      B. break                      C. continue                      D. pass

14. (MCQ)

$s = \text{"Python"}$   
 $\text{print}(s[-1])$   
Output is

- A. P                      B. n                      C. o                      D. h

15. Match the string methods.

Column A

Column B

- |              |                      |
|--------------|----------------------|
| P. upper()   | 1. Remove spaces     |
| Q. split()   | 2. Uppercase         |
| R. strip()   | 3. Divide into words |
| S. replace() | 4. Substitute text   |

Choose the correct option.

- A. P-2, Q-3, R-1, S-4    B. P-3, Q-2, R-4, S-1    C. P-1, Q-2, R-3, S-4    D. P-4, Q-1, R-2, S-3

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

16. Which method adds a single element at the end of a list?  
A. extend()      B. append()      C. insert()      D. sort()
17. The function used to find the length of a list or string is \_\_\_\_\_.  
A. size()      B. length()      C. len()      D. count()
18. Assertion (A): Nested lists can store another list as an element.  
Reason (R): Lists in Python are mutable.  
A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.  
D. A is false, R is true.
19. To calculate the square root of a number, which module function should be used?  
A. math.pow()      B. math.sqrt()      C. math.sin()      D. math.ceil()
20. Match the modules with their functions.  

| Column A      | Column B     |
|---------------|--------------|
| P. math       | 1. mean()    |
| Q. random     | 2. randint() |
| R. statistics | 3. sqrt()    |
| S. math       | 4. floor()   |

 Choose the correct option.  
 A. P-3, Q-2, R-1, S-4    B. P-2, Q-1, R-4, S-3    C. P-1, Q-3, R-2, S-4    D. P-4, Q-2, R-3, S-1
21. Which function generates a random integer between 10 and 20 (inclusive)?  
A. random()      B. randint(10,20)      C. randrange()      D. mean()
22. A variable declared inside a function has \_\_\_\_\_ scope.  
A. Global      B. Local      C. Universal      D. Static
23. Which function header uses a default parameter correctly?  
A. def area(l,b):      B. def area(l,b=5):      C. def area(=5,b):      D. def area():
24. Assertion (A): The break statement immediately terminates the loop.  
Reason (R): break transfers control to the first statement after the loop.  
A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.  
D. A is false, R is true.

**COMPUTER SCIENCE**

25. (MCQ)

A school stores student details as:

student = {"Roll":101, "Name": "Anita"}

Which Python data type is used?

- A. List                      B. Tuple                      C. Dictionary                      D. String

26. A local handicraft seller creates a website to receive orders directly from customers across India without opening a physical shop.

Which major advantage of E-Commerce is demonstrated?

- A. Increased paperwork                      B. Limited market reach  
C. Global market access                      D. Higher transportation cost

27. The buying and selling of goods and services over electronic networks is known as \_\_\_\_\_.

- A. Digital Marketing                      B. E-Commerce  
C. E-Governance                      D. E-Business Management

28. (MCQ)

A manufacturing company purchases raw materials from another manufacturing company through an online portal.

Which E-Commerce model does this represent?

- A. B2C                      B. C2C                      C. B2B                      D. C2G

29. Assertion (A): E-Business is broader than E-Commerce.

Reason (R): E-Business includes electronic buying and selling along with other business processes such as customer service and inventory management.

- A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.  
D. A is false, R is true.

30. Match the E-Commerce model with its example.

**Column A**

**Column B**

- |        |                                                       |
|--------|-------------------------------------------------------|
| P. B2C | 1. Citizen paying income tax online                   |
| Q. C2C | 2. Online retailer selling to customers               |
| R. B2G | 3. Company supplying goods to a government department |
| S. C2G | 4. Individual selling a used mobile phone online      |

Choose the correct option.

- A. P-2, Q-4, R-3, S-1    B. P-4, Q-2, R-1, S-3    C. P-3, Q-1, R-2, S-4    D. P-2, Q-3, R-4, S-1

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

31. An employee accesses company documents through a private network available only within the organization.

Which network is being used?

- A. Internet      B. Intranet      C. Extranet      D. World Wide Web

32. The electronic payment system that transfers money directly between bank accounts without using cash or cheques is called \_\_\_\_\_.

- A. Electronic Cash      B. Electronic Fund Transfer (EFT)  
C. Shopping Bot      D. Banner Advertisement

33. Assertion (A): Online shopping allows customers to compare products from different sellers easily.

Reason (R): E-Commerce websites provide product information, prices, and customer reviews online.

- A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.  
D. A is false, R is true.

34. An online shopping website recommends products based on a customer's previous purchases and browsing history.

This feature is known as

- A. Banner Advertising      B. Personalization      C. Extranet      D. Electronic Cash

35. Match the term with its description.

### Column A

- P. Banner  
Q. Shopping Bot  
R. Credit Card  
S. Paperless Bill

### Column B

1. Software that compares products and prices  
2. Online promotional advertisement  
3. Electronic payment using borrowed credit  
4. Electronic billing without printed paper

Choose the correct option.

- A. P-2, Q-1, R-3, S-4      B. P-1, Q-3, R-2, S-4      C. P-2, Q-4, R-1, S-3      D. P-3, Q-2, R-4, S-1

### Answer Key

| Q. No. | Ans | Q. No. | Ans | Q. No. | Ans | Q. No. | Ans | Q. No. | Ans |
|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|
| 1      | B   | 2      | C   | 3      | C   | 4      | A   | 5      | B   |
| 6      | C   | 7      | A   | 8      | B   | 9      | C   | 10     | C   |
| 11     | A   | 12     | B   | 13     | C   | 14     | B   | 15     | A   |
| 16     | B   | 17     | C   | 18     | B   | 19     | B   | 20     | A   |
| 21     | B   | 22     | B   | 23     | B   | 24     | A   | 25     | C   |
| 26     | C   | 27     | B   | 28     | C   | 29     | A   | 30     | A   |
| 31     | B   | 32     | B   | 33     | A   | 34     | B   | 35     | A   |

### MODEL QUESTION SET - II

1. A student writes the following code:

 $x = "25"$ 
$$y = 10$$

```
print(x + y)
```

What will happen when the program is executed?

- A. Output: 35  
B. Output: 2510  
C. TypeError at runtime  
D. Syntax Error

2. The value stored on the left side of the assignment operator is called the \_\_\_\_\_.

- A. r-value                      B. l-value                      C. literal                      D. token

3. Which of the following can NOT be used as a valid Python identifier?

- A. total\_marks      B. marks2      C. class      D. \_value

4. **Assertion (A):** Every keyword is a valid identifier.

**Reason (R):** Keywords have predefined meanings in Python.

- A. Both A and R are true, and R is the correct explanation.  
B. Both A and R are true, but R is not the correct explanation.  
C. A is true, R is false.  
D. A is false, R is true.

- 5. Predict the output.**

```
print(18//5 + 18%5)
```

- A. 6                      B. 7                      C. 8                      D. 9

6. The operator that checks whether two variables refer to the same object is \_\_\_\_\_.

- A. =                      B. =                      C. is                      D. in

- 7. Match the operator with its purpose.**

**Column A**

**Column B**

- |       |                   |
|-------|-------------------|
| P. // | 1. Membership     |
| Q. %  | 2. Floor Division |
| R. in | 3. Identity       |
| S. is | 4. Remainder      |

Choose the correct option.

- A. P-2, Q-4, R-1, S-3    B. P-1, Q-2, R-4, S-3    C. P-4, Q-2, R-3, S-1    D. P-3, Q-1, R-2, S-4

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

8. What will be the output?  
a = True  
b = False  
print(a and not b)  
A. False                      B. True                      C. 1                      D. Error
9. When an integer is automatically converted into a floating-point number during an expression, it is called \_\_\_\_\_ conversion.  
A. Explicit                      B. Forced                      C. Implicit                      D. Manual
10. A programmer writes  
age = int(input())  
If the user enters twenty, the program results in  
A. Syntax Error                      B. Logical Error  
C. ValueError (Runtime Error)                      D. No Error
11. Assertion (A): Improper indentation may prevent a Python program from executing.  
Reason (R): Python uses indentation to determine code blocks.  
A. Both A and R are true, and R correctly explains A.  
B. Both A and R are true, but R does not explain A.  
C. A is true, R is false.  
D. A is false, R is true.
12. How many times will the following loop execute?  
for i in range(5,0,-2):  
    print(i)  
A. 2                      B. 3                      C. 4                      D. 5
13. The statement that immediately exits the nearest enclosing loop is \_\_\_\_\_.  
A. continue                      B. break                      C. pass                      D. exit
14. Predict the output.  
s = "COMPUTER"  
print(s[2:-2])  
A. MPUT                      B. OMPUT                      C. MPUTE                      D. PUT
15. (Column Matching)  
Match the string method with its function.
- | Column A        | Column B                   |
|-----------------|----------------------------|
| P. count()      | 1. Find starting position  |
| Q. index()      | 2. Count occurrences       |
| R. startswith() | 3. Check beginning         |
| S. partition()  | 4. Divide into three parts |
- Choose the correct option.  
A. P-2, Q-1, R-3, S-4    B. P-1, Q-2, R-4, S-3    C. P-3, Q-4, R-1, S-2    D. P-2, Q-3, R-4, S-1

## COMPUTER SCIENCE

16. Which statement correctly inserts 50 at index 2 in a list named L?  
A. L.append(2,50)      B. L.insert(2,50)      C. L.extend(50)      D. L.add(2,50)
17. The function that returns a new sorted list without modifying the original list is \_\_\_\_\_.  
A. sort()      B. sorted()      C. reverse()      D. arrange()
18. Assertion (A): sorted() and sort() always produce identical effects.  
Reason (R): sorted() returns a new sorted list, whereas sort() modifies the original list.  
A. Both A and R are true, and R explains A.  
B. Both A and R are true, but R does not explain A.  
C. A is true, R is false.  
D. A is false, R is true.
19. Which function returns the smallest integer greater than or equal to 8.2?  
A. math.floor()      B. math.ceil()      C. math.fabs()      D. math.pow()
20. (Column Matching)  
Match the module with the appropriate function.
- | Column A      | Column B     |
|---------------|--------------|
| P. math       | 1. mode()    |
| Q. statistics | 2. randint() |
| R. random     | 3. fabs()    |
| S. statistics | 4. median()  |
- Choose the correct option.  
A. P-3, Q-4, R-2, S-1      B. P-2, Q-3, R-4, S-1      C. P-1, Q-2, R-3, S-4      D. P-4, Q-1, R-3, S-2
21. A function is defined as  
def display(name="Guest"):  
    print(name)  
What will be the output of display()  
A. Error      B. Guest      C. name      D. None
22. A variable declared outside every function belongs to the \_\_\_\_\_ scope.  
A. Local      B. Block      C. Global      D. Nested
23. Which function call correctly passes arguments by position?  
A. area(b=5,l=10)      B. area(10,5)  
C. area(l=10,b=5)      D. area(length=10,width=5)

## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

### (Assertion–Reasoning)

**24. Assertion (A): A Python function may return more than one value.**

**Reason (R): Python automatically packs multiple returned values into a tuple.**

- A. Both A and R are true, and R correctly explains A.
- B. Both A and R are true, but R does not explain A.
- C. A is true, R is false.
- D. A is false, R is true.

**25. Consider the code:**

```
x = [2,4]
y = x
x.append(6)
print(len(y))
```

The output will be

- A. 2
- B. 3
- C. 6
- D. Error

**26. A farmer sells organic vegetables directly to consumers through a mobile app without involving wholesalers or retailers.**

This transaction is an example of

- A. B2B
- B. B2C
- C. C2B
- D. G2C

**27. The primary goal of E-Commerce is to provide faster and more efficient \_\_\_\_\_ transactions.**

- A. Manual
- B. Electronic
- C. Offline
- D. Postal

**28. Assertion (A): Every E-Commerce activity is part of E-Business.**

**Reason (R): E-Business also includes activities such as inventory management, customer support, and employee collaboration using electronic systems.**

- A. Both A and R are true, and R is the correct explanation.
- B. Both A and R are true, but R is not the correct explanation.
- C. A is true, R is false.
- D. A is false, R is true.

**29. A company allows its registered suppliers to log in to a secure online portal to check inventory requirements and submit quotations. The portal is not accessible to the general public.**

Which network is most appropriate for this purpose?

- A. Internet
- B. Intranet
- C. Extranet
- D. World Wide Web

30. Match the E-Commerce model with the most appropriate example.

Column A

P. B2A

Q. G2G

R. P2P

S. C2A

Column B

1. Two citizens exchange study notes online

2. Online tax filing by a business organisation

3. Data sharing between two government departments

4. Business submitting GST returns electronically

Choose the correct option.

A. P-4, Q-3, R-1, S-2    B. P-2, Q-4, R-3, S-1    C. P-3, Q-2, R-4, S-1    D. P-1, Q-3, R-2, S-4

31. An online shopping website allows customers to save products in a wishlist and later sends customized email offers based on those items.

This is an example of

A. Banner Advertising    B. Personalization    C. Electronic Cash    D. Extranet

32. The electronic payment method in which money is transferred directly from one bank account to another without using paper instruments is called \_\_\_\_\_.

A. Credit Card System

B. Electronic Fund Transfer

C. Paperless Billing

D. Shopping Bot

33. Assertion (A): Credit cards allow customers to purchase goods even when they do not have sufficient money in their bank account at the time of purchase.

Reason (R): The issuing bank provides credit to the cardholder up to an approved limit.

A. Both A and R are true, and R is the correct explanation.

B. Both A and R are true, but R is not the correct explanation.

C. A is true, R is false.

D. A is false, R is true.

34. A customer wants to compare the prices of the same laptop available on different online shopping websites before purchasing.

Which tool is specifically designed for this purpose?

A. Banner    B. Shopping Bot    C. Web Browser    D. Search Engine

35. Match the term with its correct purpose.

Column A

P. Electronic Cash

Q. Banner

R. Intranet

S. Internet Marketing Cycle

Column B

1. Promotional graphic displayed on a webpage

2. Digital alternative to physical currency

3. Private network within an organization

4. Attract → Engage → Convert → Retain customers

Choose the correct option.

A. P-2, Q-1, R-3, S-4    B. P-3, Q-2, R-4, S-1    C. P-1, Q-4, R-2, S-3    D. P-2, Q-3, R-1, S-4



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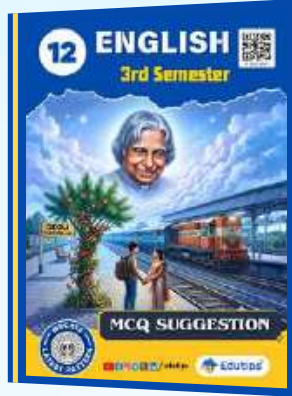
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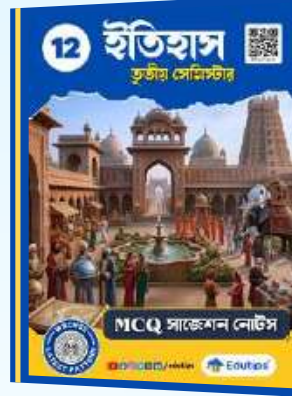
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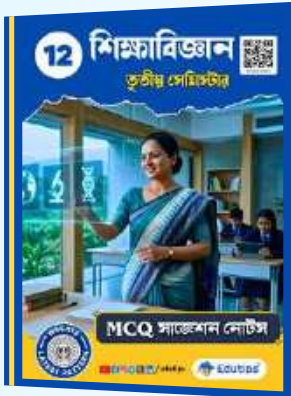
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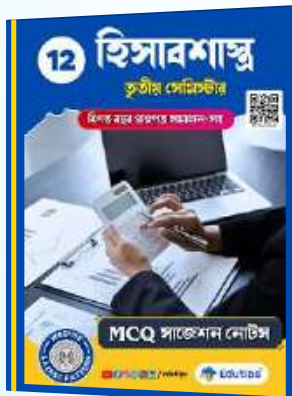
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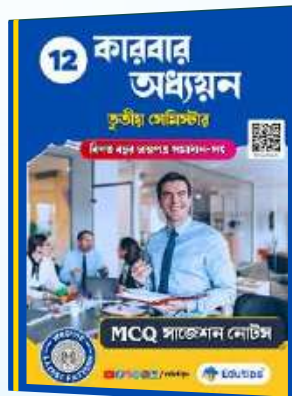
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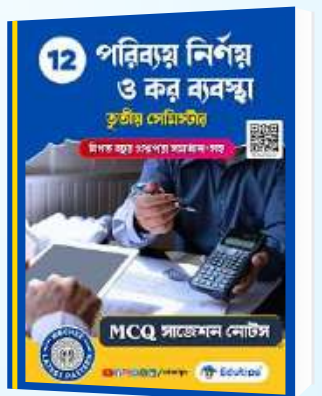
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## TOPIC-WISE QUESTION BANK WITH MODEL QUESTION PAPERS

### Answer Key Matrix

| Q. No. | Ans | Q. No. | Ans | Q. No. | Ans | Q. No. | Ans | Q. No. | Ans |
|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|
| 1      | C   | 2      | B   | 3      | C   | 4      | D   | 5      | A   |
| 6      | C   | 7      | A   | 8      | B   | 9      | C   | 10     | C   |
| 11     | A   | 12     | B   | 13     | B   | 14     | A   | 15     | A   |
| 16     | B   | 17     | B   | 18     | D   | 19     | B   | 20     | A   |
| 21     | B   | 22     | C   | 23     | B   | 24     | A   | 25     | B   |
| 26     | B   | 27     | B   | 28     | A   | 29     | C   | 30     | A   |
| 31     | B   | 32     | B   | 33     | A   | 34     | B   | 35     | A   |

### FREE BOOKLET WITH COMPUTER SCIENCE MQP BOOK

Model Question Paper book on Computer Science will be applicable for both Computer Science [ COMS ] and Computer Application [ COMA ] students and Model papers given in the book may be used by students from both the subjects. 2 sets of Model papers given in the booklet is meant for the COMS students, but may be used by COMA students also.

#### Computer Science -SET 1

1.. Consider the following Python code:

```
x = 10
```

```
y = 3
```

```
print(x // y, x % y)
```

What will be the output?

A. 3 1 , B. 3.33 1 , C. 3 0 , D. 4 1

2. Which of the following expressions evaluates to True?

A.  $5 > 3$  and  $2 > 4$  , B.  $\text{not}(5 == 5)$  , C.  $4 \text{ in } [2, 4, 6]$  , D.  $3 != 3$

3. 5. What is the output?

```
s = "COMPUTER"
```

```
print(s[1:6:2])
```

A. OPT , B. OU , C. OMU , D. CME

4. What is the output?

```
L = [10, 20, 30, 40]
```

```
L[1:3] = [5, 6, 7]
```

```
print(L)
```

A. [10, 5, 6, 7, 40] , B. [5, 6, 7, 10, 20, 30, 40] , C. [10, 5, 6, 30, 40] , D. Error

5. Which of the following operations is not possible on a tuple?

A. Indexing , B. Slicing , C. Concatenation , D. Modifying an existing element

6. What will be the output?

```
for i in range(5):
```

```
 if i == 3:
```

```
 break
```

```
 print(i, end=" ")
```

A. 0 1 2 , B. 0 1 2 3 , C. 1 2 3 , D. 0 1 2 4

7. Match the Error

| Column A | Column B       |
|----------|----------------|
| A. 10/0  | 1. SyntaxError |

|                            |                      |
|----------------------------|----------------------|
| B. Missing :               | 2. ZeroDivisionError |
| C. int("abc")              | 3. ValueError        |
| D. Incorrect program logic | 4. Logical error     |

Options:

A. A-2, B-1, C-3, D-4 , B. A-1, B-2, C-3, D-4 , C. A-2, B-3, C-1, D-4 , D. A-4, B-1, C-3, D-2

8. Match the Module

| Column A      | Column B                    |
|---------------|-----------------------------|
| A. math       | 1. Random number generation |
| B. random     | 2. Mathematical functions   |
| C. statistics | 3. Statistical calculations |
| D. sqrt()     | 4. Square root              |

Options:

A. A-2, B-1, C-3, D-4 , B. A-1, B-2, C-3, D-4 , C. A-2, B-3, C-1, D-4 , D. A-3, B-1, C-2, D-4

9. Assertion: Python variables do not need to be explicitly declared with a data type.  
Reason: Python determines the type of an object at runtime.

- A. Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
- B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- C. Assertion is true, but Reason is false.
- D. Assertion is false, but Reason is true.

10. Assertion: A tuple can be used as a dictionary key if all its elements are hashable.  
Reason: Dictionary keys must be hashable.

- A. Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
- B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- C. Assertion is true, but Reason is false.
- D. Assertion is false, but Reason is true.

11. A Python string is \_\_\_\_\_, whereas a Python list is \_\_\_\_\_.

- A. mutable, immutable , B. immutable, mutable , C. mutable, mutable , D. immutable, immutable

12. The \_\_\_\_\_ statement terminates a loop, while the \_\_\_\_\_ statement skips the current iteration.

A. continue, break , B. break, continue , C. return, break , D. pass, continue

13. The \_\_\_\_\_ method adds one element to the end of a list, whereas \_\_\_\_\_ can remove and return an element.

A. extend(), remove() , B. append(), pop() , C. insert(), clear() , D. add(), delete()

14. Match Column I, Column II and Column III

| Column I-Code                            | Column II – Concept  | Column III – Result      |
|------------------------------------------|----------------------|--------------------------|
| A. <code>x = [1,2,3]; x.append(4)</code> | P. List operation    | 1. Adds an element       |
| B. <code>s = "Python"; s.upper()</code>  | Q. String method     | 2. Converts to uppercase |
| C. <code>d = {"a":10}; d.get("a")</code> | R. Dictionary method | 3. Retrieves value       |

Options:

A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-R-3, C-P-1 , C. A-P-2, B-Q-1, C-R-3 , D. A-R-1, B-P-2, C-Q-3

15. Match Column I, Column II and Column III

| Column I – Code                                           | Column II – Python Concept | Column III – Outcome           |
|-----------------------------------------------------------|----------------------------|--------------------------------|
| A. <code>from math import sqrt</code>                     | P. Module import           | 1. Imports a specific function |
| B. <code>def add(a,b): return a+b</code>                  | Q. User-defined function   | 2. Returns calculated value    |
| C. <code>try: x=10/0 except ZeroDivisionError: ...</code> | R. Exception handling      | 3. Handles division-by-zero    |

Options:

A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-P-1, C-R-3 , C. A-P-2, B-R-3, C-Q-1 , D. A-R-3, B-Q-1, C-P-2

16. A variable defined inside a function generally has \_\_\_\_\_ scope, whereas a variable defined outside functions has \_\_\_\_\_ scope.

A. global, local , B. local, global , C. public, private , D. private, local

17. The \_\_\_\_\_ method adds one element to the end of a list, whereas \_\_\_\_\_ can remove and return an element.

A. extend(), remove() , B. append(), pop() , C. insert(), clear() , D. add(), delete()

18. Match the Dictionary Method

| Column A    | Column B                                 |
|-------------|------------------------------------------|
| A. keys()   | 1. Returns key-value pairs               |
| B. values() | 2. Returns keys                          |
| C. items()  | 3. Returns values                        |
| D. get()    | 4. Retrieves value associated with a key |

Options:

A. A-2, B-3, C-1, D-4 , B. A-3, B-2, C-1, D-4 , C. A-2, B-1, C-3, D-4 , D. A-4, B-3, C-2, D-1

19. What is the output?

```
def test(x=5):
 return x * 2
print(test())
```

A. 5 , B. 7 , C. 10 , D. Error

20. What does the following code print?

```
for i in range(2, 10, 3):
 print(i, end=" ")
```

A. 2 5 8 , B. 2 4 6 8 , C. 3 6 9 , D. 2 5 8 11

21. Match Column I, Column II and Column III

| Column I – Code             | Column II – Concept  | Column III – Result      |
|-----------------------------|----------------------|--------------------------|
| A. x = [1,2,3]; x.append(4) | P. List operation    | 1. Adds an element       |
| B. s = "Python"; s.upper()  | Q. String method     | 2. Converts to uppercase |
| C. d = {"a":10}; d.get("a") | R. Dictionary method | 3. Retrieves value       |

Options:

A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-R-3, C-P-1 , C. A-P-2, B-Q-1, C-R-3 , D. A-R-1, B-P-2, C-Q-3

22. The first element of a sequence has index \_\_\_\_\_, while the last element can be accessed using index \_\_\_\_\_.

- A. 1, len(sequence) , B. 0, -1 , C. -1, 0 , D. 1, -1

23. The \_\_\_\_\_ block contains code that may generate an exception, while the \_\_\_\_\_ block handles a matching exception.

- A. except, try , B. try, except , C. finally, try , D. try, finally

24. Assertion: The finally block executes whether an exception occurs or not.

Reason: finally is intended for code that must execute regardless of the exception outcome.

- A. Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.  
B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.  
C. Assertion is true, but Reason is false.  
D. Assertion is false, but Reason is true.

25. Consider:

```
d = {"A": 10, "B": 20}
```

```
print(d.get("C", 30))
```

What will be printed?

- A. None , B. C , C. 30 , D. Error

26. A company allows customers to select products through a website, make online payment and receive the products at home. Which combination best describes the activity?

- A. Only electronic communication  
B. E-Commerce involving online commercial transactions  
C. Only EDI  
D. Only Internet marketing

22. A manufacturer purchases raw materials electronically from another business through an online procurement platform. This is an example of:

- A. B2C , B. C2C , C. B2B , D. C2B

27. Which statement most accurately distinguishes E-Commerce from E-Business?

- A. E-Commerce includes all internal business activities, while E-Business only means online shopping.  
B. E-Commerce mainly concerns electronic buying and selling, while E-Business can include broader electronically supported business processes.  
C. E-Commerce and E-Business always mean exactly the same thing.  
D. E-Business does not require digital technology.

28. E-Commerce Models

| Column A | Column B                |
|----------|-------------------------|
| A. B2B   | 1. Business to Consumer |
| B. B2C   | 2. Consumer to Consumer |

|        |                                                  |
|--------|--------------------------------------------------|
| C. C2C | 3. Business to Business                          |
| D. C2B | 4. Consumer offers products/services to business |

Options:

A. A-3, B-1, C-2, D-4 , B. A-1, B-3, C-4, D-2 , C. A-2, B-1, C-3, D-4 , D. A-3, B-2, C-1, D-4

### 29. E-Commerce Limitations

| Column A                       | Column B                                                          |
|--------------------------------|-------------------------------------------------------------------|
| A. Security concern            | 1. Risk related to personal/payment information                   |
| B. Lack of physical inspection | 2. Product cannot normally be examined physically before purchase |
| C. Delivery dependency         | 3. Customer may need to wait for the product                      |
| D. Technology dependency       | 4. Requires suitable digital infrastructure                       |

Options:

A. A-2, B-1, C-4, D-3 , B. A-1, B-2, C-3, D-4 , C. A-4, B-3, C-2, D-1 , D. A-3, B-4, C-1, D-2

30. Assertion: EDI can reduce the need for manual re-entry of repeatedly exchanged business documents.

Reason: EDI allows structured business information to be exchanged electronically between systems.

- A. Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B. Both Assertion and Reason are true, but Reason does not correctly explain Assertion.  
C. Assertion is true, but Reason is false.  
D. Assertion is false, but Reason is true.

### 31. Shopping Bots

Assertion: A shopping bot can help a customer compare products or prices.

Reason: A shopping bot can automatically search and collect product-related information from available online sources.

- A. Both Assertion and Reason are true, and Reason correctly explains Assertion.  
B. Both Assertion and Reason are true, but Reason does not correctly explain Assertion.  
C. Assertion is true, but Reason is false.  
D. Assertion is false, but Reason is true.

32. A \_\_\_\_\_ can help compare products or prices, whereas \_\_\_\_\_ involves reciprocal display of online advertisements.

- A. payment gateway, EDI , B. shopping bot, banner exchange , C. banner exchange, shopping bot  
D. EFT, personalization

33. \_\_\_\_\_ is the process of tailoring online content or recommendations to individual users, while \_\_\_\_\_ refers to purchasing goods or services through electronic channels.  
A. EDI, EFT , B. Personalization, online shopping , C. Banner exchange, EDI , D. EFT, personalization

34. Internet marketing may begin by \_\_\_\_\_ potential customers and later focus on \_\_\_\_\_ existing customers.  
A. ignoring, replacing , B. attracting, retaining , C. replacing, attracting , D. blocking, informing

35.

| Column I – Method  | Column II – Function                           | Column III – Example                                    |
|--------------------|------------------------------------------------|---------------------------------------------------------|
| A. Credit Card     | P. Card-based payment/credit facility          | 1. Customer enters card details to pay for an order     |
| B. EFT             | Q. Electronic transfer of funds                | 2. Money is electronically transferred between accounts |
| C. Electronic Cash | R. Electronic representation of monetary value | 3. Customer uses stored electronic monetary value       |

Options:

- A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-R-3, C-P-1 , C. A-P-2, B-R-1, C-Q-3 , D. A-R-3, B-P-2, C-Q-1

## Computer Science -SET 2

I. Situation → Concept → Best Solution

| Column I – Situation                    | Column II – Concept   | Column III – Solution       |
|-----------------------------------------|-----------------------|-----------------------------|
| A. User enters zero as divisor          | P. Exception handling | 1. Handle ZeroDivisionError |
| B. Same calculation required repeatedly | Q. Function           | 2. Define reusable function |
| C. Need frequency of grades             | R. Dictionary         | 3. Store grade-count pairs  |

Options:

- A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-R-3, C-P-1 , C. A-P-2, B-Q-3, C-R-1 , D. A-R-3, B-P-2, C-Q-1

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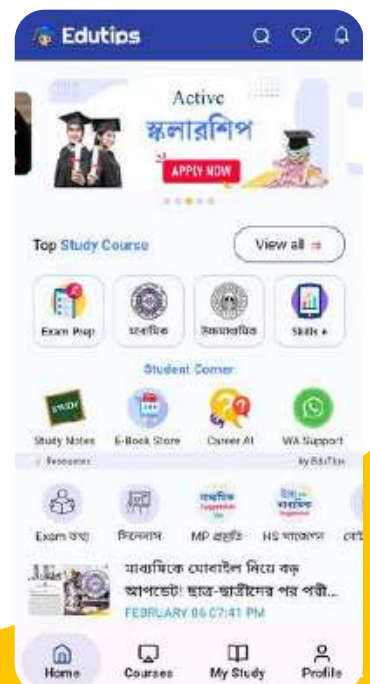


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2. The string method \_\_\_\_\_ can remove leading and trailing spaces, while \_\_\_\_\_ can divide a string into a list of parts.

A. strip(), split() , B. split(), strip() , C. remove(), divide() , D. trim(), break()

3. A variable defined inside a function normally has \_\_\_\_\_ scope, whereas a variable defined outside functions normally has \_\_\_\_\_ scope.

A. global, local , B. local, global , C. public, private , D. private, public

4. Assertion: Replacing if  $x > 10$ : with if  $x \geq 10$ : can change the result of a program.

Reason: The second condition also accepts the boundary value 10.

A. Both Assertion and Reason are true, and Reason correctly explains Assertion.

B. Both are true, but Reason does not correctly explain Assertion.

C. Assertion is true, but Reason is false.

D. Assertion is false, but Reason is true.

5. A program searches for a particular student ID:

for id in ids:

    if id == target:

        print("Found")

        break

Why is break appropriate?

A. It skips only the current student , B. It stops searching once the target is found, C. It restarts the search

D. It changes the target value

6. Assertion: A dictionary is useful for representing the frequency of different grades.

Reason: A dictionary can associate each grade with its corresponding count.

A. Both Assertion and Reason are true, and Reason correctly explains Assertion.

B. Both are true, but Reason does not correctly explain Assertion.

C. Assertion is true, but Reason is false.

D. Assertion is false, but Reason is true.

7. Match the real-world task with the best approach

Column A

Column B

A. Count frequency of grades

1. Dictionary

B. Store an unchangeable coordinate

2. Tuple

C. Search through marks

3. Loop

D. Reuse calculation

4. Function

Options:

A. A-1, B-2, C-3, D-4 , B. A-2, B-1, C-4, D-3 , C. A-1, B-3, C-2, D-4 , D. A-4, B-2, C-3, D-1

8. Assertion: The statement  $s[0] = "A"$  cannot normally be used to modify a Python string.

Reason: Python strings are immutable.

- A. Both Assertion and Reason are true, and Reason correctly explains Assertion.  
 B. Both are true, but Reason does not correctly explain Assertion.  
 C. Assertion is true, but Reason is false.  
 D. Assertion is false, but Reason is true.

9. Match the real-world task with the best approach

| Column A                            | Column B      |
|-------------------------------------|---------------|
| A. Count frequency of grades        | 1. Dictionary |
| B. Store an unchangeable coordinate | 2. Tuple      |
| C. Search through marks             | 3. Loop       |
| D. Reuse calculation                | 4. Function   |

Options:

A. A-1, B-2, C-3, D-4 , B. A-2, B-1, C-4, D-3 , C. A-1, B-3, C-2, D-4 , D. A-4, B-2, C-3, D-1

10. Assertion: A list is generally more appropriate than a tuple when the collection needs frequent modification.

Reason: Lists are mutable whereas tuples are immutable.

- A. Both Assertion and Reason are true, and Reason correctly explains Assertion.  
 B. Both are true, but Reason does not correctly explain Assertion.  
 C. Assertion is true, but Reason is false.  
 D. Assertion is false, but Reason is true.

11. A student wants the following output:

1 4 9 16 25

They write:

for i in range(1,6):

print(i\*i, end=" ")

The code already works. Which modification would produce the output without an extra space after 25?

- A. Replace end=" " with end="" , B. Use print(i\*i, end="" if i < 5 else "")  
 C. Remove range() , D. Replace i\*i with i+i

12. Match the code with its effect

| Column A       | Column B              |
|----------------|-----------------------|
| A. L.append(5) | 1. Removes an element |
| B. L.pop()     | 2. Adds an element    |

|                |                      |
|----------------|----------------------|
| C. L.sort()    | 3. Sorts elements    |
| D. L.reverse() | 4. Reverses elements |

Options:

A. A-2, B-1, C-3, D-4 , B. A-1, B-2, C-4, D-3 , C. A-3, B-4, C-2, D-1 , D. A-4, B-3, C-1, D-2

13. What happens?

```
def test():
```

```
 x = 100
```

```
test()
```

```
print(x)
```

A. 100 is printed, B. 0 is printed , C. A NameError occurs , D. A SyntaxError occurs

14. Consider:

```
data = {"name": "Rita", "age": 17}
```

```
print(data.get("phone", "Not Available"))
```

Why is get() useful here?

A. It automatically creates the key phone , B. It prevents an error and provides a default value

C. It deletes missing keys, D. It converts the dictionary into a list

15. A school timetable should not accidentally be modified while the program is running. Which structure is more appropriate?

A. List , B. Tuple , C. Dictionary only , D. String

16. A student wants to print the even numbers from 2 through 10:

2 4 6 8 10

Which statement is correct?

A. range(2,10,2) , B. range(2,11,2) , C. range(1,11,2) , D. range(2,12,3)

16. A student writes:

```
result = 10 + 5 * 2
```

A classmate claims that the answer is 30. What is the correct response?

A. The classmate is correct because addition is performed first

B. The answer is 20 because multiplication has higher precedence

C. The answer is 30 because Python evaluates left to right

D. Python generates a syntax error

17. A student wants to store marks of 50 students. The marks may later need to be changed after rechecking. Which data structure is most appropriate?

A. Tuple, because it stores multiple values , B. List, because its elements can be modified

C. String, because marks are entered as text , D. Dictionary, because every value must have a unique key

18. A calculator accepts two numbers from users:

```
a = int(input())
```

```
b = int(input())
```

```
print(a/b)
```

Which exception is particularly important to handle if the user enters 0 for b?

A. ValueError , B. NameError , C. ZeroDivisionError , D. IndexError

19. The \_\_\_\_\_ statement exits a loop, whereas \_\_\_\_\_ skips the remaining statements of the current iteration.

A. continue, break , B. break, continue , C. return, pass , D. pass, break

20. A function is defined using the keyword \_\_\_\_\_ and can send a result back using \_\_\_\_\_.

A. fun, send , B. def, return , C. function, output , D. define, result

21. Code → Concept → Outcome

| Column I – Code  | Column II – Concept     | Column III – Outcome          |
|------------------|-------------------------|-------------------------------|
| A. L.append(10)  | P. List modification    | 1. Adds 10                    |
| B. s.upper()     | Q. String operation     | 2. Converts to uppercase      |
| C. d.get("name") | R. Dictionary operation | 3. Retrieves associated value |

Options:

A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-R-3, C-P-1 , C. A-P-2, B-Q-1, C-R-3 , D. A-R-3, B-P-1, C-Q-2

22. Consider the code:

L1 = [10, 20, 30]

L2 = L1

L2.append(40)

L1 = L1[:2]

print(L1)

print(L2)

What will be the output?

A. [10, 20] and [10, 20] , B. [10, 20, 30] and [10, 20, 30, 40] , C. [10, 20] and [10, 20, 30, 40]

D. [10, 20, 40] and [10, 20, 40]

23. What is the output?

s = "COMPUTER"

x = s[1:-1:2]

y = s[-2:1:-2]

print(x + y)

A. OPTR , B. OPUE , C. OMUR , D. OUE

24. Consider:

d = {1: "A", True: "B", 1.0: "C"}

print(len(d))

print(d[1])

What will be printed?

A. 3 and A , B. 3 and C , C. 1 and C , D. 1 and A

25. Consider:  
data = [2, 4, 2, 6, 4, 2]

freq = {}

for x in data:

if x not in freq:

freq[x] = 1

else:

freq[x] += 1

result = []

for key in freq:

if freq[key] > 1:

result.append(key)

print(result)

Which statement is most accurate?

- A. It creates a list containing every distinct element in data.
- B. It creates a list containing elements that occur more than once, preserving their dictionary insertion order.
- C. It creates a list containing only the element having the highest frequency.
- D. It sorts the repeated elements in ascending order automatically.

26. A hospital allows patients to book appointments online, download reports, make payments electronically and receive automated reminders. Which statement best describes this system?

- A. It is only an example of online advertising
- B. It represents the broader application of E-Commerce and E-Business
- C. It is exclusively an example of C2C commerce
- D. It is an example of banner exchange

27. A government department purchases computer equipment through an online tendering system from a private technology company. Which E-Commerce model best represents the transaction?

- A. G2C , B. C2B , C. B2G , D. C2C

28. Match Column I with Column II.

| Column I           | Column II                                         |
|--------------------|---------------------------------------------------|
| A. Web promotion   | 1. Automated comparison of product information    |
| B. Shopping bot    | 2. Techniques used to attract visitors/customers  |
| C. Banner exchange | 3. Reciprocal display of advertisements           |
| D. Personalization | 4. Content adapted to individual user preferences |

Options:

A. A-2, B-1, C-3, D-4 , B. A-1, B-3, C-4, D-2 , C. A-2, B-3, C-1, D-4 , D. A-4, B-1, C-2, D-3

29. Assertion: EDI can improve the speed and accuracy of exchanging repetitive business documents.

Reason: EDI allows business information to be exchanged electronically in a structured format that can be processed by computer systems.

A. Both Assertion and Reason are true, and Reason correctly explains Assertion.

B. Both are true, but Reason does not explain Assertion.

C. Assertion is true, but Reason is false.

D. Assertion is false, but Reason is true.

30. An electronic payment system may use \_\_\_\_\_ for transferring funds between bank accounts, whereas \_\_\_\_\_ represents monetary value in electronic form.

A. EDI, EFT , B. EFT, Electronic Cash , C. Electronic Cash, Credit Card , D. Credit Card, EDI

31. Match the E-Commerce model, participants, and example.

| Column I – Model | Column II – Participants   | Column III – Example                                                           |
|------------------|----------------------------|--------------------------------------------------------------------------------|
| A. C2B           | P. Consumer → Business     | 1. Freelancer provides a service to a company                                  |
| B. G2C           | Q. Government → Citizen    | 2. Citizen accesses an online government service                               |
| C. G2G           | R. Government → Government | 3. One government department exchanges information electronically with another |

Options:

A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-P-1, C-R-3 , C. A-P-2, B-R-3, C-Q-1 , D. A-R-3, B-Q-1, C-P-2

32. An online retailer notices that many visitors add products to their shopping carts but leave without purchasing. The company analyses customer behaviour and changes the website to provide personalised recommendations, reminders and offers.

Which concept is most directly being applied?

A. Electronic Data Interchange , B. Personalisation in Internet marketing , C. Electronic Fund Transfer

D. Banner exchange

33. Assertion: The convenience of online shopping does not necessarily mean that every customer will prefer it over physical shopping.

Reason: Factors such as inability to physically inspect products, delivery time and concerns about online transactions can influence customer preference.

A. Both Assertion and Reason are true, and Reason correctly explains Assertion.

B. Both are true, but Reason does not explain Assertion.

- C. Assertion is true, but Reason is false.  
D. Assertion is false, but Reason is true.

34. In Internet marketing, the process of attracting potential customers is followed by activities aimed at \_\_\_\_\_ them into customers and subsequently \_\_\_\_\_ them over a longer period.

- A. replacing, ignoring , B. converting, retaining , C. informing, replacing , D. transferring, converting

35. Three-Column Matching – Integrated E-Commerce

| Column I – Concept | Column II – Primary Purpose       | Column III – Situation                                        |
|--------------------|-----------------------------------|---------------------------------------------------------------|
| A. EDI             | P. Business-document exchange     | 1. Retailer electronically sends a purchase order to supplier |
| B. EFT             | Q. Electronic movement of money   | 2. Customer transfers payment electronically                  |
| C. Shopping Bot    | R. Product information comparison | 3. Buyer compares prices offered by different sellers         |

Options:

- A. A-P-1, B-Q-2, C-R-3 , B. A-Q-2, B-R-3, C-P-1 , C. A-R-3, B-P-1, C-Q-2 , D. A-P-2, B-R-1, C-Q-3

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