

Class 11 Computer Chapter 2: Python Programming

MULTIPLE CHOICE QUESTIONS (MCQS) - COMPLETE GUIDE

Introduction to Python

Q1 What is Python?

- a A complex system language
- b A high-level, easy-to-learn programming language
- c A web design tool
- d A database system

✓ **Correct Answer:** b) A high-level, easy-to-learn programming language

Q2 Which of the following fields use Python?

- a Game development
- b Data analysis
- c Artificial Intelligence
- d All of the above

✓ **Correct Answer:** d) All of the above

Q3 What is the main purpose of programming?

- a To watch videos
- b To create instructions for a computer
- c To draw pictures
- d To send emails

✓ **Correct Answer:** b) To create instructions for a computer

Q4 Which step is part of writing a program?

- a Compile/Interpret
- b Play music
- c Browse the internet
- d Delete files

✓ **Correct Answer:** a) Compile/Interpret

Q5 Where should you download Python from?

- a Any app store
- b Third-party site
- c <https://www.python.org>
- d Random download links

✓ **Correct Answer:** c) <https://www.python.org>

Q6 What does an IDE help with?

- a Watching movies
- b Writing and debugging code
- c Playing games
- d Sending messages

✓ **Correct Answer:** b) Writing and debugging code

Q7 Which tool is used to install Python packages?

- a 'npm'
- b 'pip'
- c 'git'
- d 'apt'

✓ **Correct Answer:** b) 'pip'

Basic Python Syntax and Structure**Q8 What is the purpose of comments in Python?**

- a To run code faster
- b To explain or note code for better understanding
- c To delete code permanently
- d To change variable names

✓ **Correct Answer:** b) To explain or note code for better understanding

Q9 Which symbol is used for a single-line comment in Python?

- a '//'
- b '#'
- c '/* */'
- d '...'

✓ **Correct Answer:** b) '#'

Q10 How can you write a multi-line comment in Python?

- a Using '/' at each line
- b Using triple quotes ('''' or ''')
- c Using square brackets '[[[]]]'
- d Using curly braces '{}'

✓ **Correct Answer:** b) Using triple quotes ('''' or ''')

Q11 Which of the following is a valid variable name in Python?

- a 2ndPlace
- b my_variable
- c my-var
- d @name

✓ **Correct Answer:** b) my_variable

Q12 Which of the following cannot be used as a variable name in Python?

- a age
- b _score
- c for
- d user_name

✓ **Correct Answer:** c) for

Q13 Why should we use meaningful variable names?

- a To make code shorter
- b To increase program speed
- c To improve readability and understanding
- d To hide data from others

✓ **Correct Answer:** c) To improve readability and understanding

Q14 Which variable name is invalid?

- a my_var
- b _count
- c 2nd_place
- d MAX_VALUE

✓ **Correct Answer:** c) 2nd_place

Q15 Which is allowed in Python variable names?

- a Spaces
- b Hyphens (-)
- c Underscores (_)
- d Special symbols (#)

✓ **Correct Answer:** c) Underscores (_)

Q16 What is the recommended case for constants?

- a CamelCase
- b Snake_case
- c UPPERCASE with underscores
- d Lowercase

✓ **Correct Answer:** c) UPPERCASE with underscores

Q17 What is the data type of the variable in this line: price = 19.99?

- a int
- b str
- c float
- d bool

✓ **Correct Answer:** c) float

Q18 Which data type represents text in Python?

- a int
- b float
- c str
- d bool

✓ **Correct Answer:** c) str

Q19 What does the input() function do in Python?

- a Displays output to the screen
- b Waits for user input and stores it as a string
- c Converts data to integer
- d Ends the program

✓ **Correct Answer:** b) Waits for user input and stores it as a string

Q20 How can you convert user input to an integer in Python?

- a Using str()
- b Using float()
- c Using int()
- d Using bool()

✓ **Correct Answer:** c) Using int()

Operators and Expressions

Q21 What is an operator in Python?

- a A value
- b A symbol that performs an operation
- c A comment
- d A function

✓ **Correct Answer:** b) A symbol that performs an operation

Q22 Which of the following is an arithmetic operator?

- a and
- b ==
- c +
- d =

✓ **Correct Answer:** c) +

Q23 Which operator is used for exponentiation?

- a *
- b **
- c //
- d %

✓ **Correct Answer:** b) *

Q24 Which operator compares two values and returns True or False?

- a Arithmetic
- b Assignment
- c Comparison
- d Logical

✓ **Correct Answer:** c) Comparison

Q25 Which of the following is a logical operator?

- a +
- b *
- c not
- d ==

✓ **Correct Answer:** c) not

Q26 What does the == operator check?

- a Greater than
- b Less than
- c Equality
- d Assignment

✓ **Correct Answer:** c) Equality

Q27 What is an expression in Python?

- a A comment
- b A combination of values, variables, and operators
- c A variable name
- d An error message

✓ **Correct Answer:** b) A combination of values, variables, and operators

Q28 What is the result of the expression $3 + 4 * 2$?

- a 10
- b 11
- c 14
- d 6

✓ **Correct Answer:** b) 11

Q29 Which has the highest precedence in Python expressions?

- a Addition
- b Parentheses ()
- c Multiplication
- d Exponentiation

✓ **Correct Answer:** b) Parentheses ()

Q30 What will be the output of $(3 + 2) * 2$?

- a 6
- b 7
- c 10
- d 8

✓ **Correct Answer:** c) 10

Control Structures

Q31 What are control structures used for in programming?

- a To write comments
- b To control the flow of a program
- c To delete code
- d To rename variables

✓ **Correct Answer:** b) To control the flow of a program

Q32 Which of the following is a type of decision-making structure in Python?

- a for
- b while
- c if-else
- d import

✓ **Correct Answer:** c) if-else

Q33 What does an 'if' statement do?

- a Repeats code many times
- b Executes code only if a condition is true
- c Always runs the else block
- d Skips all conditions

✓ **Correct Answer:** b) Executes code only if a condition is true

Q34 Which statement allows checking multiple conditions in order?

- a 'if'
- b 'if-else'
- c 'if-elif-else'
- d 'short-hand if-else'

✓ **Correct Answer:** c) 'if-elif-else'

Q35 What is the shorthand version of 'if-else' written in one line called?

- a Compact loop
- b Ternary operator
- c Short function
- d Inline comment

✓ **Correct Answer:** b) Ternary operator

Q36 Which loop runs as long as a condition is true?

- a 'for' loop
- b 'loop-until'
- c 'while' loop
- d 'repeat' loop

✓ **Correct Answer:** c) 'while' loop

Q37 Which loop is best for iterating over a sequence like a list or string?

- a 'while' loop
- b 'for' loop
- c 'do-while' loop
- d 'switch' loop

✓ **Correct Answer:** b) 'for' loop

Q38 What does the 'range(5)' function generate?

- a Numbers from 0 to 5 including 5
- b Numbers from 1 to 5
- c Numbers from 0 to 4
- d Only the number 5

✓ **Correct Answer:** c) Numbers from 0 to 4

Q39 What does 'range(3)' produce?

- a [0, 1, 2]
- b [1, 2, 3]
- c [0, 1, 2, 3]
- d Error

✓ **Correct Answer:** a) [0, 1, 2]

Q40 Which of the following is NOT a valid form of the range() function?

- a 'range(start)'
- b 'range(start, stop)'
- c 'range(start, stop, step)'
- d 'range(start, stop, step, end)'

✓ **Correct Answer:** d) 'range(start, stop, step, end)'

Q41 What is the purpose of the range() function in Python?

- a To create a list of strings
- b To generate a sequence of numbers
- c To store data in variables
- d To compare values

✓ **Correct Answer:** b) To generate a sequence of numbers

Python Modules and Built-in Data Structures

Q42 What is a data structure in Python?

- a A way to write comments
- b A way to organize & store data
- c A type of function only
- d A method to delete files

✓ **Correct Answer:** b) A way to organize & store data

Q43 Which keyword defines a function in Python?

- a 'function'
- b 'define'
- c 'def'
- d 'fun'

✓ **Correct Answer:** c) 'def'

Q44 How do you use a module in code?

- a By copying it
- b By renaming it
- c By importing it
- d By printing it

✓ **Correct Answer:** c) By importing it

Q45 Which is a built-in data structure in Python?

- a Images
- b Videos
- c Lists
- d Sounds

✓ **Correct Answer:** c) Lists

Q46 What is a library in Python?

- a A single function
- b A list of variables
- c A collection of modules
- d A comment block

✓ **Correct Answer:** c) A collection of modules

Q47 What does 'return' do in a function?

- a Prints output always
- b Stops the program
- c Sends back a value
- d Deletes the function

✓ **Correct Answer:** c) Sends back a value

Q48 What are default parameters in functions?

- a Parameters that can't change
- b Parameters with preset values
- c Parameters that break code
- d Must-use parameters

✓ **Correct Answer:** b) Parameters with preset values

Q49 Which module works with dates and times?

- a 'random'
- b 'math'
- c 'datetime'
- d 'os'

✓ **Correct Answer:** c) 'datetime'

Q50 What is a package in Python?

- a A single file
- b Folder with unrelated files
- c Directory with related modules
- d A built-in function

✓ **Correct Answer:** c) Directory with related modules

Q51 Why are packages useful in Python?

- a To make code messy
- b To group modules and improve order
- c To delete old code
- d To slow down execution

✓ **Correct Answer:** b) To group modules and improve order

Built-in Data Structures

Q52 Which of the following is a built-in data structure in Python?

- a array
- b list
- c set
- d stack

✓ **Correct Answer:** b) list

Q53 How do you create a list in Python?

- a curly braces
- b parentheses
- c square brackets
- d angle brackets

✓ **Correct Answer:** c) square brackets

Q54 What will be the output of the following code?

PYTHON

```
fruits = ["Mango", "Apple", "Banana"]  
print(fruits[1])
```

- a Mango
- b Banana
- c Apple
- d None

✓ **Correct Answer:** c) Apple

Q55 Which method adds an item to the end of a list?

- a insert
- b append
- c add
- d extend

✓ **Correct Answer:** b) append

Q56 What is the key difference between a tuple and a list?

- a mutable vs immutable
- b variable declaration
- c data types
- d syntax

✓ **Correct Answer:** a) mutable vs immutable

Q57 What does the following code do?

PYTHON

```
numbers = [1, 2, 3, 4, 5]  
slice = numbers[1:4]
```

- a first three elements
- b elements 2 to 4
- c last three elements
- d all elements

✓ **Correct Answer:** b) elements 2 to 4

Q58 How can you access the last element of a list?

- a index -1
- b index 0

- ☐ c length-1 ☐ d both a and c

✓ **Correct Answer:** d) both a and c

Q59 What will be the output of the following code?

PYTHON

```
student_names = ["Ahmed", "Sara", "Ali", "Hina"]
student_names.sort()
student_names.remove("Sara")
print(student_names)
```

- ☐ a all names ☐ b Ali, Ahmed, Hina
☐ c Ahmed, Ali, Hina ☐ d Sara, Hina, Ali, Ahmed

✓ **Correct Answer:** c) Ahmed, Ali, Hina

Q60 What is the purpose of slicing?

- ☐ a access elements ☐ b create a list
☐ c subset of sequence ☐ d sort a list

✓ **Correct Answer:** c) subset of sequence

Q61 Why practice indexing and slicing?

- ☐ a not important ☐ b retrieve elements efficiently
☐ c only for lists ☐ d only for strings

✓ **Correct Answer:** b) retrieve elements efficiently

Q62 What is the third element of [10, 20, 30, 40]?

- ☐ a 10 ☐ b 20
☐ c 30 ☐ d 40

✓ **Correct Answer:** c) 30

Q63 Which method removes the last item from a list?

- a pop()
- b remove()
- c del()
- d All of the above

✓ **Correct Answer:** a) pop()

Q64 What is the result of slicing `my_list = [10, 20, 30, 40]; my_list[1:3]`?

- a [10, 20]
- b [20, 30]
- c [30, 40]
- d [20, 30, 40]

✓ **Correct Answer:** b) [20, 30]

Q65 What is the output of `my_list = [1, 2, 3]; my_list[-1]`?

- a 1
- b 2
- c 3
- d Error

✓ **Correct Answer:** c) 3

Q66 How do you slice a string `s = "Python"` to get "yth"?

- a `s[1:4]`
- b `s[2:5]`
- c `s[0:3]`
- d `s[3:6]`

✓ **Correct Answer:** a) `s[1:4]`

Q67 What does `my_list[::-2]` do for `[10, 20, 30, 40]`?

- a Returns [10, 20]
- b Returns [20, 40]
- c Returns [10, 30]
- d Returns [30, 40]

✓ **Correct Answer:** c) Returns [10, 30]

Q68 Which index accesses the last character of a string `s = "Hello"`?

- a `s[4]`
- b `s[-1]`
- c `s[5]`
- d `s[0]`

✓ **Correct Answer:** b) `s[-1]`

Modular Programming in Python

Q69 What is modular programming?

- a One file
- b Smaller modules
- c No functions
- d Single data structure

✓ **Correct Answer:** b) Smaller modules

Q70 What is the main function in Python?

- a Background function
- b Starting point
- c Imports modules
- d Error handler

✓ **Correct Answer:** b) Starting point

Q71 Why is the `main()` function important?

- a Faster execution
- b Organizes code
- c Infinite loops
- d Not important

✓ **Correct Answer:** b) Organizes code

Q72 How does modular programming benefit developers?

- a Complicates management
- b Independent work
- c No functions
- d Less reuse

✓ **Correct Answer:** b) Independent work

Q73 What is Python's standard library?

- a External libraries
- b Built-in modules
- c Code database
- d Debugging tool

✓ **Correct Answer:** b) Built-in modules

Q74 How does the standard library help programmers?

- a Complex algorithms
- b Pre-built solutions
- c More coding
- d Limited functionality

✓ **Correct Answer:** b) Pre-built solutions

Q75 What does breaking a program into modules promote?

- a Code duplication
- b Code reuse
- c Increased complexity
- d Longer development

✓ **Correct Answer:** b) Code reuse

Q76 What is a key advantage of using modules?

- a Harder to read
- b Easier maintenance
- c No comments
- d Fewer functions

✓ **Correct Answer:** b) Easier maintenance

Q77 How can you check if a script is run directly?

- a if `__name__ == "__main__"`
- b `main()` only
- c File extension
- d Import script

✓ **Correct Answer:** a) if `__name__ == "__main__"`

Q78 What tasks can the standard library help with?

- a Math only
- b Common tasks
- c Web development
- d Data analysis

✓ **Correct Answer:** b) Common tasks

Object-Oriented Programming in Python**Q79 What is Object-Oriented Programming (OOP)?**

- a Code with functions
- b Code with classes and objects
- c Single file coding
- d Procedural programming

✓ **Correct Answer:** b) Code with classes and objects

Q80 What is a class in Python?

- a Instance of an object
- b Blueprint for objects
- c Type of function
- d Data structure

✓ **Correct Answer:** b) Blueprint for objects

Q81 What is an object in Python?

- a Template for classes
- b Instance of a class
- c Type of variable
- d Built-in function

✓ **Correct Answer:** b) Instance of a class

Q82 How does OOP help in code management?

- a Complicates code
- b Organizes into classes
- c Reduces reuse
- d Eliminates functions

✓ **Correct Answer:** b) Organizes into classes

Q83 What does the `__init__` method do?

- a Defines a class
- b Initializes attributes
- c Creates a class
- d Deletes an object

✓ **Correct Answer:** b) Initializes attributes

Q84 What does the 'describe()' method do?

- a Initializes the object
- b Describes the toy car
- c Creates a toy car
- d Modifies attributes

✓ **Correct Answer:** b) Describes the toy car

Q85 What is the relationship between a class and an object?

- a Class is an instance
- b Object is a template
- c Class defines objects
- d Unrelated concepts

✓ **Correct Answer:** c) Class defines objects

Q86 What does 'self' represent?

- a Global variable
- b The class
- c Instance of the class
- d Built-in function

✓ **Correct Answer:** c) Instance of the class

Q87 Which OOP principle allows code reuse?

- a Encapsulation
- b Inheritance
- c Polymorphism
- d All

✓ **Correct Answer:** d) All

Q88 How does OOP make code scalable?

- a One class only
- b Easy modifications
- c Fewer objects
- d Avoids functions

✓ **Correct Answer:** b) Easy modifications

Advanced Python Concepts**Q89 What is exception handling in Python?**

- a Managing errors during execution
- b Ignoring errors
- c Compiling code
- d Debugging code

✓ **Correct Answer:** a) Managing errors during execution

Q90 What does the try block do?

- a Catches errors
- b Tests code for errors
- c Terminates the program
- d Writes to files

✓ **Correct Answer:** b) Tests code for errors

Q91 What happens in the except block?

- a Code execution stops
- b Handles the error
- c Creates a new file
- d Compiles the code

✓ **Correct Answer:** b) Handles the error

Q92 What is the purpose of file handling?

- a To manage memory
- b To read and write files
- c To execute code
- d To handle exceptions

✓ **Correct Answer:** b) To read and write files

Q93 How do you open a file in Python?

- a open_file()
- b open() function
- c file_open()
- d read_file()

✓ **Correct Answer:** b) open() function

Q94 What does the with statement do when handling files?

- a Keeps the file open
- b Ensures the file is closed
- c Deletes the file
- d Reads the file

✓ **Correct Answer:** b) Ensures the file is closed

Q95 What mode is used to overwrite a file?

- a read (r)
- b write (w)
- c append (a)
- d execute (x)

✓ **Correct Answer:** b) write (w)

Q96 How do you append data to a file?

- a Open in read mode
- b Open in write mode
- c Open in append mode
- d Open in execute mode

✓ **Correct Answer:** c) Open in append mode

Q97 What does the read() method do?

- a Writes to a file
- b Reads file contents
- c Closes the file
- d Opens a file

✓ **Correct Answer:** b) Reads file contents

Q98 What is the result of dividing by zero in Python?

- a Returns zero
- b Raises an error
- c Returns infinity
- d Terminates the program

✓ **Correct Answer:** b) Raises an error

Q99 Which block handles exceptions?

- a 'try'
- b 'except'
- c 'finally'
- d 'else'

✓ **Correct Answer:** b) 'except'

Q100 What error occurs when dividing by zero?

- a 'ValueError'
- b 'ZeroDivisionError'
- c 'TypeError'
- d 'SyntaxError'

✓ **Correct Answer:** b) 'ZeroDivisionError'

Q101 Which block always executes, even after an error?

- a 'try'
- b 'except'
- c 'finally'
- d 'else'

✓ **Correct Answer:** c) 'finally'

Testing and Debugging in Python

Q102 What is testing in programming?

- a Writing code
- b Running code with inputs
- c Compiling
- d Debugging

✓ **Correct Answer:** b) Running code with inputs

Q103 What is the goal of testing?

- a Write more code
- b Find and fix issues
- c Optimize performance
- d Deploy code

✓ **Correct Answer:** b) Find and fix issues

Q104 What is unit testing?

- a Testing the whole app
- b Testing parts in isolation
- c User interaction testing
- d Performance testing

✓ **Correct Answer:** b) Testing parts in isolation

Q105 What does integration testing check?

- a Individual functions
- b User experience
- c Code interaction
- d Performance

✓ **Correct Answer:** c) Code interaction

Q106 What is functional testing?

- a Speed testing
- b Validating user behavior
- c Syntax checking
- d Database testing

✓ **Correct Answer:** b) Validating user behavior

Q107 What is regression testing?

- a Testing new features
- b Ensuring no breakage in functionality
- c UI testing
- d Performance testing

✓ **Correct Answer:** b) Ensuring no breakage in functionality

Q108 What is debugging?

- a Writing new code
- b Finding and fixing errors
- c Compiling
- d Running tests

✓ **Correct Answer:** b) Finding and fixing errors

Q109 What is a common debugging technique?

- a Writing more code
- b Print statements
- c Ignoring errors
- d Frequent compiling

✓ **Correct Answer:** b) Print statements

Q110 What does pdb do?

- a Compiles code
- b Steps through and inspects code
- c Writes tests
- d Optimizes performance

✓ **Correct Answer:** b) Steps through and inspects code

Q111 Why are error messages important?

- a Slow down the process
- b Help locate problems
- c Not useful
- d Indicate success

✓ **Correct Answer:** b) Help locate problems

Q112 Which module provides statistical functions like 'mean()'?

- a 'random'
- b 'math'
- c 'statistics'
- d 'os'

✓ **Correct Answer:** c) 'statistics'

Q113 What is the output of `print("Hello", end="!")`?

- ☐ a Hello!
- ☐ b Hello
- ☐ c Error
- ☐ d Hello\n!

✓ **Correct Answer:** a) Hello!

Q114 What does `lambda x: x * 2` do?

- ☐ a Defines a recursive function
- ☐ b Creates an anonymous function
- ☐ c Raises an error
- ☐ d Defines a class

✓ **Correct Answer:** b) Creates an anonymous function

Q115 What is the output of this code?

PYTHON

```
x = 5
if x % 2 == 0:
    print("Even")
else:
    print("Odd")
```

- ☐ a Even
- ☐ b Odd
- ☐ c Error
- ☐ d None

✓ **Correct Answer:** b) Odd

Q116 What does `range(5)` generate?

- ☐ a [1, 2, 3, 4, 5]
- ☐ b [0, 1, 2, 3, 4]
- ☐ c [5, 4, 3, 2, 1]
- ☐ d Error

✓ **Correct Answer:** b) [0, 1, 2, 3, 4]

Q117 What is the result of `3 ** 2`?

a 6

b 9

c 8

d 5

✓ Correct Answer: b) 9

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Answer Key Summary

Q.No.	Answer	Q.No.	Answer	Q.No.	Answer	Q.No.	Answer
1	b	31	b	61	b	91	b
2	d	32	c	62	c	92	b
3	b	33	b	63	a	93	b
4	a	34	c	64	b	94	b
5	c	35	b	65	c	95	b
6	b	36	c	66	a	96	c
7	b	37	b	67	c	97	b
8	b	38	c	68	b	98	b
9	b	39	a	69	b	99	b
10	b	40	d	70	b	100	b
11	b	41	b	71	b	101	c
12	c	42	b	72	b	102	b
13	c	43	c	73	b	103	b
14	c	44	c	74	b	104	b
15	c	45	c	75	b	105	c
16	c	46	c	76	b	106	b
17	c	47	c	77	a	107	b
18	c	48	b	78	b	108	b
19	b	49	c	79	b	109	b
20	c	50	c	80	b	110	b
21	b	51	b	81	b	111	b
22	c	52	b	82	b	112	c
23	b	53	c	83	b	113	a
24	c	54	c	84	b	114	b
25	c	55	b	85	c	115	b
26	c	56	a	86	c	116	b
27	b	57	b	87	d	117	b
28	b	58	d	88	b		

Q.No.	Answer	Q.No.	Answer	Q.No.	Answer	Q.No.	Answer
29	b	59	c	89	a		
30	c	60	c	90	b		

Topic-wise Distribution of MCQs

Topic	Question Numbers	Total Questions
Introduction to Python	1-7	7
Basic Python Syntax and Structure	8-20	13
Operators and Expressions	21-30	10
Control Structures	31-41	11
Python Modules and Built-in Data Structures	42-51	10
Built-in Data Structures	52-68	17
Modular Programming in Python	69-78	10
Object-Oriented Programming in Python	79-88	10
Advanced Python Concepts	89-101	13
Testing and Debugging in Python	102-117	16
Total		117

End of Chapter 2 Multiple Choice Questions