

SAMPLE QUESTION PAPER

Half Yearly Examination

Sample Question Paper

General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In case of MCQ, text of the correct answer should also be written.

Section – A			
Section A consists of 21 questions (1 to 21). Each question carries 1 Marks.			
Q. No.	Question		
1.	State True or False : In Python, strings are immutable objects.		
2.	What will be the output of the following code? s="python programming" print(s.upper())		
	a) Python Programming	c) python programming	
	b) PYTHON PROGRAMMING	d) PYTHON programming	
3.	What will be the output of the following code? L=[5,10,15,20,25] print(L[:2])		
	a) [5,10,15]	c) [10,20]	
	b) [5,15,25]	d) [5,10,20,25]	
4.	Which of the following expressions evaluates to True?		
	a) 10>20 and 5<8	c) 'Z' in "PYTHON"	
	b) 25 not in [10,20,30]	d) 8>10 or 5>20	
5.	What will be the output of the following code? D={"X":5,"Y":10} print(D.get("Z"))		
	a) Z	c) None	
	b) 0	d) Error	
6.	What will be the output of the following code? T=(2,4,6,8,10) print(T[:3])		
	a) (2,4)	c) [2,4,6]	
	b) (2,4,6)	d) (4,6,8)	
7.	What will be the output of the following code? s="Education" print(s.find("a"))		
	a) 4	c) -1	
	b) 6	d) Error	

8.	What will be the output of the following code? L=[7,2,9] print(max(L))		
	a) 2	c) 9	
	b) 7	d) Error	
9.	What will be the output of the following code? x=7 y=str(x) print(type(y))		
	a) <class 'int'>	c) str	
	b) <class 'str'>	d) Error	
10.	What will be the output of the following code? import statistics print(statistics.mean([10,20,30]))		
	a) 20	c) 60	
	b) 30	d) Error	
11.	What will be the output of the following code? f=open("abc.txt","a") print(f.name)		
	a) .txt	c) abc.txt	
	b) abc	d) None	
12.	Which of the following statements will raise an exception? Assume D={"A":10,"B":20}		
	a) D.get("A")	c) D["C"]	
	b) D.pop("B")	d) len(D)	
13.	What will be the output of the following code? def Test(a,b=2): return a**b print(Test(3))		
	a) 6	c) 9	
	b) 8	d) 27	
14.	What will be the output of the following code? s="WELCOME" print(s.replace("E","*"))		
	a) WELCOME	c) W*LCOME	
	b) WLCOM	d) WELCOM*	
15.	What will be the output of the following code snippet? L=[10,20] L.insert(1,15) print(L)		
	a) [10,20,15]	c) [10,15,20]	
	b) [15,10,20]	d) Error	
16.	Which SQL command is used to display the structure of an existing table?		
	a) SHOW DATABASES	c) SELECT	
	b) DESC	d) DISPLAY TABLE	
17.	Which of the following SQL operations returns all possible combinations of rows from two tables?		
	a) Natural Join	c) Cartesian Product	
	b) Equi Join	d) Group By	
18.	Which SQL clause is used to filter rows based on a condition?		
	a) ORDER BY	c) WHERE	
	b) HAVING	d) GROUP BY	

19.	Consider the query: SELECT MIN(Price) FROM PRODUCT; What does the query return?		
	a) Average price	c) Highest price	
	b) Lowest price	d) Total price	
Q20 and 21 are ASSERTION AND REASONING based questions. Mark the correct choice as (a) Both A and R are true and R is the correct explanation for A (b) Both A and R are true and R is not the correct explanation for A (c) A is True but R is False (d) A is False but R is True			
20.	Assertion (A): The readline() method reads one line at a time from a text file. Reason (R): The readline() method returns a list containing all lines of the file.		
21.	Assertion (A): Dictionaries in Python are mutable. Reason (R): New key-value pairs can be added to an existing dictionary.		
Section – B Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.			
Q. No.	Question		
22.	What will be the output of the following code? def Compute(a, b): return a+b, a*b x, y = Compute(4, 5) print(x) print(y) a) How many values are returned by the function Compute()? b) Write the output of the above code.		
23.	Write Python statements to perform the following tasks using built-in functions/methods only: a) To create a new string S2 by converting all characters of string S1 into lowercase. b) To check whether a string variable S starts with the word "Data".		
24.	Assuming that D is a dictionary in Python: a) Write a Python expression to display all values stored in dictionary D. a) Write a single statement to remove all elements from dictionary D.		
25.	What possible output(s) from the given options will NOT be displayed when the following code is executed? Also mention the number of iterations of the loop. for i in range(5,0,-2): print(i,end=' ') Options: a) 5 3 1 b) 5 3 c) 1 3 5 d) 5 1 3		
26.	The following function is intended to count the number of spaces present in a string. The code contains errors. Rewrite the code after correcting all errors. Underline all corrections made. def CountSpace(S): C=0 for ch in S: if ch==" " C=C+1 return(ch)		
27.	Assuming that LIBRARY is a table in a MySQL database: a) Write an SQL command to display all records arranged in descending order of Price. b) Write an SQL command to display all records where Price is less than 500.		
28.	Answer the following: a) Differentiate between Candidate Key and Primary Key. b) A table contains four candidate keys. One of them is selected as the primary key. How many candidate keys remain?		

Section – C

Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.

Q. No.	Question																								
29.	Write a Python function <code>DisplayUpperWords()</code> that reads a text file "Notice.txt" and displays all words that are written completely in uppercase letters. For example, if the file contains: The SCHOOL will organize a QUIZ competition on FRIDAY. The output should be: SCHOOL QUIZ FRIDAY																								
30.	A stack named <code>NameStack</code> is implemented using a list. Write the following user-defined functions: a) <code>PushName(NameStack, Name)</code> : Push the name onto the stack only if its first letter is an uppercase alphabet. b) <code>PopName(NameStack)</code> : Remove and return the topmost element of the stack. If the stack is empty, display "UNDERFLOW". c) <code>DisplayNames(NameStack)</code> : Display all names stored in the stack from top to bottom. If the stack is empty, display "EMPTY STACK".																								
31.	Consider the table COURSE given below: <table> <tr> <th>Course_ID</th> <th>Course_Name</th> <th>Duration</th> <th>Fees</th> </tr> <tr> <td>C101</td> <td>Python Basics</td> <td>3</td> <td>4500</td> </tr> <tr> <td>C102</td> <td>Web Designing</td> <td>4</td> <td>5500</td> </tr> <tr> <td>C103</td> <td>Data Science</td> <td>6</td> <td>8000</td> </tr> <tr> <td>C104</td> <td>Cyber Security</td> <td>5</td> <td>7500</td> </tr> <tr> <td>C105</td> <td>AI Essentials</td> <td>6</td> <td>9000</td> </tr> </table> Write the SQL queries for the following: a) Display the highest fee for each Duration. b) Display the number of courses available for each Duration. c) Display only those Duration groups where the average fee is greater than 7000.	Course_ID	Course_Name	Duration	Fees	C101	Python Basics	3	4500	C102	Web Designing	4	5500	C103	Data Science	6	8000	C104	Cyber Security	5	7500	C105	AI Essentials	6	9000
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C101	Python Basics	3	4500																						
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C105	AI Essentials	6	9000																						

Section – D

Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.

Q. No.	Question
32.	A CSV file "STUDENTS.csv" contains the following details of students: RollNo Name Class Percentage For example: 101,Aarav,XII,91 102,Riya,XII,78 103,Kabir,XII,85 Write a Python program to read the records from <code>STUDENTS.csv</code> and write all those records where the Percentage is greater than or equal to 85 into another CSV file named <code>MERIT.csv</code>. Note: The source file contains a header row which should not be copied to the destination file.
33.	Write a Python function <code>CountLower()</code> that reads a text file "Report.txt" and returns the number of lowercase letters present in the file. For example, if the file contains: Python Is Fun The function should return: 8 (ython, s, un)

34.	Consider the table SPORTS:				
	Player_ID	Player_Name	Game	Score	Matches
	P101	Aarav	Cricket	85	12
	P102	Riya	Tennis	92	15
	P103	Kabir	Cricket	76	10
	P104	Mehak	Tennis	88	14
	P105	Arjun	Cricket	95	18
Write SQL queries for the following:					
a) Display Game-wise maximum Score.					
b) Increase the Matches by 2 for all players who play Tennis.					
c) Display the total number of Matches played by all players.					
d) Display complete details of players whose names start with the letter 'A'.					
35.	Two tables AUTHOR and BOOK are given below:				
	AUTHOR				
	Author_ID	Author_Name	Country		
	A101	Chetan	India		
	A102	Ruskin	India		
	A103	Rowling	UK		
	A104	Orwell	UK		
	BOOK				
	Book_ID	Author_ID	Price	Publish_Year	
	B101	A101	350	2023	
	B102	A103	650	2022	
	B103	A102	420	2024	
	B104	A101	500	2025	
	Write SQL queries for the following:				
	a) Display the names of authors along with the price of their books.				
b) Display Author_ID, Author_Name and Price for books costing more than ₹400.					
c) Display the author names in ascending order.					
d) Display the average price of books written by each author.					
Section – E					
Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.					
Q. No.	Question				
36.	A binary file "PRODUCT.DAT" contains records of products stored using pickle. Each record is a list containing the following details: [ProductID, ProductName, Price] Example: [101, 'Keyboard', 850] [102, 'Mouse', 450] [103, 'Monitor', 12000] Write the following user-defined functions:				
a) AddProduct() - To input the details of a product and append the record to the binary file PRODUCT.DAT. (2 Marks)					
b) DisplayCostlyProducts() - To search and display the details of all products whose Price is greater than or equal to 5000. If no such record is found, display: NO RECORD FOUND (3 Marks)					

37. Consider the following two tables:

TEACHER

Teacher_ID	Teacher_Name	Department	City
T101	Mehak	Science	Jaipur
T102	Aarav	Mathematics	Delhi
T103	Riya	Science	Jaipur
T104	Kabir	Computer Science	Mumbai
T105	Arjun	Mathematics	Delhi

SALARY

Teacher_ID	Month	Amount
T101	January	55000
T102	January	62000
T103	January	58000
T104	January	65000
T105	January	60000

Write SQL queries for the following:

- Display Teacher_Name and Amount of all teachers.
- Display Teacher_ID, Teacher_Name and Amount of teachers whose salary is greater than 60000.
- Display the average salary of teachers from each City.
- Display the City and number of teachers belonging to each City.
- Display the names of teachers in descending order of Amount.