

Class: XI Session: 2026-27
SAMPLE QUESTION PAPER
Informatics Practices (065)

Time allowed: 3 Hours

Maximum Marks: 70

General Instructions:

- The paper is divided into 4 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 4 questions (29 to 32). Each question carries 3 Marks.
- Section D, consists of 2 questions (33 to 34). Each question carries 4 Marks.
- Section E, consists of 3 questions (35 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.

Q.No.	Question	Marks
SECTION A		
1	A student accidentally deletes an important project file and immediately switches off the computer without saving or copying any other files. What is the most likely reason the file can still be recovered? a) The deleted file is automatically backed up by the operating system. b) Only the file's address is marked as free, while the actual data may still exist. c) Deleted files are permanently stored in RAM. d) The hard disk automatically recreates deleted files.	1
2	Which of the following changes will affect the degree of a relation? a) Adding a new row b) Deleting a row c) Adding a new column d) Updating a value in a row	1
3	Identify the type of software in the situation given below: "Ms. Verma wants a program specifically designed to detect and remove viruses to protect her laptop from malware." a) System Software b) Utility Software c) General Purpose Application Software d) Specific Purpose Application Software	1
4	What is the default data type of input() function in Python? a) int b) bool c) float d) str	1
5	Arrange bit, byte, nibble, word in ascending order of size. a) bit < nibble < byte < word b) nibble < bit < byte < word c) byte < bit < nibble < word d) word < byte < nibble < bit	1

6	Ms. Suman wants to list all products from a table whose prices range between 500 and 1500 (both inclusive). Which operator is ideal? (a) IN (b) OR (c) BETWEEN (d) NOT IN	1
7	What will be the output of the following expression in Python? print(17 // 4 + 3 ** 2) a)13 b)13.25 c)14 d)11	1
8	Reena is entering student records into the STUDENT table. She does not know the student's Marks at the time of data entry. Which of the following should she use for the Marks field? a) NULL b) "NULL" c) "" d) 0	1
9	Consider the Python snippet: my_list = [10, 20, 30]. If a student executes my_list.append([40, 50]), what will be the resulting value of my_list? a) [10, 20, 30, 40, 50] b) [10, 20, 30, [40, 50]] c) [40, 50, 10, 20, 30] d) It will raise a TypeError	1
10	A blockchain network contains 500 participating computers. A malicious user successfully changes the data stored on one computer. What is the most likely outcome? a) The entire blockchain is immediately modified. b) The modified data becomes valid automatically. c) The change is rejected because the other computers still contain the original ledger. d) All computers stop functioning.	1
11	Analyze the two conditions: WHERE Category = 'Electronics' AND Price > 50000. When will a row be included in the output? a) If either condition is true. b) Only if both conditions are true. c) If the price condition is true regardless of category. d) Only if the category is 'Electronics' and the price is exactly 50000.	1
12	Which of the following is used as both input and output device? a) Touch Screen b) Printer c) Keyboard d) Scanner	1
13	Which of the following SQL commands is used to display the names of all tables present in the currently selected database? a) Show tables b) List tables c) Describe tables d) Select * from tables	1
14	Which of the following best defines a domain in DBMS? a) A collection of tuples b) A set of valid values for an attribute c) A candidate key d) A relation schema	1

15	Suppose you are using Google Voice Search to find an article online. What form of technology is converting your voice command into digital text data? a) NLP b) Blockchain c) Data Grid d) Big data	1
16	Which data type is used to store fixed-length character strings in MySQL? a) VARCHAR b) CHAR c) TEXT d) INT	1
17	If Emp_Id is declared as the Primary Key of table Employee, which statement about it is true? a) It can store duplicate values for inactive employees b) It can store one NULL value c) It must be unique and cannot be NULL for any row d) It can be modified freely without restriction	1
18	What happens if a WHERE clause is not added along with UPDATE command? a) The operation generates a syntax error. b) No modifications occur. c) Every row in a table is updated. d) Only the first structural entry record is modified.	1
19	Aisha wants to use an online photo-editing tool directly through her browser without installing any software on her computer. Which cloud service model is she using? a) IaaS (Infrastructure as a Service) b) PaaS (Platform as a Service) c) SaaS (Software as a Service) d) DaaS (Desktop as a Service)	1
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 interactive mode of Python provides instant results of typed statements. Reason (R): Script mode is also interactive and gives immediate results.	1
21	Assertion (A): DISTINCT keyword removes duplicate rows from query results. Reason (R): DISTINCT can be applied to one or more columns in a query.	1
SECTION B		
22	a) A student has been allotted 500 MB of cloud storage to save project files. After uploading files occupying 3,07,200 KB. How much free storage space is available in MB? b) State True and False: "RAM is faster than ROM. ROM takes more time to access as it stores data permanently and is used for system startup."	1+1
23	State any four advantages of Database Management System.	2
24	a) A team of researchers uses computers located at different places to work together and share processing power for large climate studies. Identify the computing approach used. b) 1.A company removes duplicate and incorrect customer records before analysis to ensure accurate results. Which characteristic of Big Data is being addressed? 2.A social media platform stores text posts, images, videos, and audio files. Which characteristic of Big Data is represented?	1+1

25	Predict the exact output printed on the console screen for the following Python code segment: <pre>country = 'INDIA' for char in country: if char == 'D': print('*') elif char == 'I': print('@') else: print(char)</pre>	2																								
26	Rahul is the captain of his school cricket team. He carefully notes down the runs scored in 6 matches: [220, 180, 250, 300, 275, 190]. To quickly analyze the performance, he wants to store the data in a NumPy array help him for the following: a)To create numpy array b)To find the score of the second last batsman. OR Find the output of the following code snippet: <pre>import numpy as np arr1 = np.array([10, 20, 30]) arr2 = np.array([25, 35, 45]) print(arr1[1:]*2) print(arr2-arr1)</pre>	1+1																								
27	Consider the following table: Table:CAR <table><tr><th>CarID</th><th>Brand</th><th>Model</th><th>Price</th></tr><tr><td>101</td><td>Toyota</td><td>Corolla</td><td>1700000</td></tr><tr><td>102</td><td>Hyundai</td><td>Creta</td><td>1500000</td></tr><tr><td>103</td><td>Honda</td><td>City</td><td>1700000</td></tr><tr><td>104</td><td>Tata</td><td>Nexon</td><td>140000</td></tr><tr><td>105</td><td>Mahindra</td><td>XUV300</td><td>1600000</td></tr></table> a) A database administrator wants to add a new column FuelType to the CAR table. Write the SQL command for the same. b) Identify the category of SQL command used above (DDL,DML or DQL) and expand it. OR a)Can a table have multiple Alternate Keys? Explain with a brief example. b)Write the command to delete the table permanently from the database.	CarID	Brand	Model	Price	101	Toyota	Corolla	1700000	102	Hyundai	Creta	1500000	103	Honda	City	1700000	104	Tata	Nexon	140000	105	Mahindra	XUV300	1600000	1+1
CarID	Brand	Model	Price																							
101	Toyota	Corolla	1700000																							
102	Hyundai	Creta	1500000																							
103	Honda	City	1700000																							
104	Tata	Nexon	140000																							
105	Mahindra	XUV300	1600000																							
28	a)Is the following statement correct in python <pre>1. x=y=z=10 2. print("10" - "5")</pre> b)Predict the output of the following statement <pre>1.print (2**3**2) 2.print(“DAV” * 3)</pre> OR Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. <pre>temps = [32, 35, 29, 40, 31)</pre>	1+1																								

	<pre># Calculate the average temperature average temp = sum(Temps) / len(temps) # Print the result print("The average temperature is:" average_temp)</pre>																			
SECTION C																				
29	Observe the following snippet carefully: <pre>my_list = ['Red', 'Green', 'Blue', 'Cyan', 'Magenta']</pre> Write the expected outputs for the following Python slicing and index operations: a) <code>print(my_list[1:4])</code> b) <code>print(my_list[::-1])</code> c) <code>print(my_list[-3:])</code>	1+1+1																		
30	a) A child is hopping stairs two at a time, starting from step 1 and stopping at step 5. Rewrite this journey using a <i>for</i> loop instead of a <i>while</i> loop: <pre>count = 1 while count <= 5: print(count) count += 2</pre> b) Give the output of the following Python code: <pre>for i in range(0, 10, 3): if i % 3 == 0 and i % 2 == 0: print(i)</pre> OR Write a program where a treasure chest only opens when the adventurer enters "open sesame". The program should keep asking until the right word is entered.	2+1=3																		
31	Table: EmployeeData <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Emp_ID</th><th>Salary</th><th>Bonus</th></tr> </thead> <tbody> <tr> <td>501</td><td>40000</td><td>500</td></tr> <tr> <td>502</td><td>45000</td><td>NULL</td></tr> <tr> <td>503</td><td>40000</td><td>4000</td></tr> <tr> <td>604</td><td>60000</td><td>NULL</td></tr> <tr> <td>505</td><td>55000</td><td>7000</td></tr> </tbody> </table> a) Ayush has executed the following queries in MySQL. Predict the output: UPDATE EmployeeData SET Bonus=Bonus+1000; SELECT Bonus FROM EmployeeData; b) Mr. X issued the following command to remove the records of employees earning salary 40000 from the table EmployeeData. But the command is generating an error. Write the correct SQL command for the same using logical operators only. MySQL> delete from EmployeeData where Emp_id=501 and Emp_id=503; c) Write an SQL query to display the following output without using logical operators: <pre>Emp_ID 502 604</pre>	Emp_ID	Salary	Bonus	501	40000	500	502	45000	NULL	503	40000	4000	604	60000	NULL	505	55000	7000	1+1+1=3
Emp_ID	Salary	Bonus																		
501	40000	500																		
502	45000	NULL																		
503	40000	4000																		
604	60000	NULL																		
505	55000	7000																		

	OR a) Mr. Subodh has created the teacher table and forgot to make T_ID as primary Key. Write a command in SQL to make T_ID as the Primary key of the table. Table-teacher <table><tr><th>Field</th><th>Type</th><th>Null</th><th>Key</th><th>Default</th><th>Extra</th></tr><tr><td>T_ID</td><td>int(11)</td><td>YES</td><td></td><td>NULL</td><td></td></tr><tr><td>T_NAME</td><td>varchar(10)</td><td>YES</td><td></td><td>NULL</td><td></td></tr><tr><td>DOJ</td><td>date</td><td>YES</td><td></td><td>NULL</td><td></td></tr><tr><td>SALARY</td><td>int(11)</td><td>YES</td><td></td><td>NULL</td><td></td></tr><tr><td>WORKLOAD</td><td>int(11)</td><td>YES</td><td></td><td>NULL</td><td></td></tr><tr><td>GENDER</td><td>char(1)</td><td>YES</td><td></td><td>NULL</td><td></td></tr><tr><td>SUBJECT</td><td>varchar(12)</td><td>YES</td><td></td><td>NULL</td><td></td></tr></table> 7 rows in set (0.09 sec) b)A sports academy wants to maintain player records and tournament details in a database named SportsArena. Write SQL commands to: 1.Create a database named SportsArena. 2.Display the structure of the table “Sports” from the database.	Field	Type	Null	Key	Default	Extra	T_ID	int(11)	YES		NULL		T_NAME	varchar(10)	YES		NULL		DOJ	date	YES		NULL		SALARY	int(11)	YES		NULL		WORKLOAD	int(11)	YES		NULL		GENDER	char(1)	YES		NULL		SUBJECT	varchar(12)	YES		NULL		
Field	Type	Null	Key	Default	Extra																																													
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WORKLOAD	int(11)	YES		NULL																																														
GENDER	char(1)	YES		NULL																																														
SUBJECT	varchar(12)	YES		NULL																																														
32	a)Create a table named Sports having the following structure, Use appropriate data types for the attributes. SportID (Primary Key) SportName Budget MatchDate b) Explain what will happen if you attempt to create two tables with the same name in one database?	2 +1=3																																																
SECTION D																																																		
33	Your school is planning to launch a digital student ID card system that tracks cafeteria purchases, library book checkouts, and campus attendance. a)Would you recommend the school administration to buy a Generic Purpose or a Specific Purpose software package for this project? Give reason to support your choice. b)When you turn on an Android phone, the Android logo pops up. When you turn on an iPhone, the Apple logo pops up. What type of software are Android and iOS? c) If a teacher wants to type and format a question paper for an upcoming exam, which specific category of application software should they open?	2+1+1=4																																																
34	A student is experimenting with list manipulation functions in Python. Observe the sequence below: runs = [30, 15, 90, 45, 60] Evaluate the step-by-step change in the list data or output after executing each method. Write down the outcomes sequentially: a) runs.sort() b) runs.pop() c) runs.insert(1, 75) d) print(max(runs) + sum(runs))	1*4=4																																																
SECTION E																																																		
35	Consider the following table ENTERTAINMENT. Write SQL commands for the statements (i) to (v) <table><tr><td>BookID</td><td>Title</td><td>Author</td><td>Price</td><td>Genre</td></tr></table>	BookID	Title	Author	Price	Genre	1*5=5																																											
BookID	Title	Author	Price	Genre																																														

	B101	Harry Potter	J.K. Rowling	499	Fantasy
	B102	The Guide	R.K. Narayan	399	Fiction
	B103	The Immortals of Meluha	Amish Tripathi	499	Mythological Fiction
	B104	Chain of custody	Anita Nair	450	Crime
	B105	Five Point Someone	Chetan Bhagat	299	Contemporary Fiction
	B106	The Blue Umbrella	Ruskin Bond	250	Children's Fiction
	B10	Cut Like Wound	Anita Nair	799	Crime
a) Write the Degree and Cardinality of the given table. b) Display the list of all books except genre Crime. c) Remove all books with price below 299. d) Remove column Price from the above table. e) Increase the price of all books by 10%.					

36

Consider the following table:

1*5=5

Table: Book

BookID	Title	Author	Price
B101	Python Basics	Sumita Arora	450
B102	Data Science	Preeti Arora	550
B103	Cyber Safety	K.Sen	290
B104	AI and Ethics	M. Sharma	380

a) Identify the appropriate Primary Key from the table.
b) Is every Primary key a Candidate key? If two Books of the same Author and Title are added in the future, will Title or Author remain a candidate key? Justify your answer.
c) Write the MySQL command to insert a record
Bookid-B105
Title : Machine Learning
Price: 475
d) Write the MySQL command to display Title and new Price of books if the price is decreased by 10%.
e) Predict the output:
Select 12>5;

OR

Find the output of the following MySQL queries based on table CINEMA:

Screen_NO	Movie_name	Genre	TicketPrice	Seats
1	Chhava	Historical	250	123

	<table><tr><td>2</td><td>Stree 2</td><td>Horror Comedy</td><td>220</td><td>80</td></tr><tr><td>3</td><td>Sky Force</td><td>Action</td><td>300</td><td>150</td></tr><tr><td>4</td><td>Taare Zameen Par</td><td>Drama</td><td>180</td><td>95</td></tr><tr><td>5</td><td>Raid 2</td><td>Crime Thriller</td><td>280</td><td>110</td></tr><tr><td>6</td><td>Housefull 5</td><td>Comedy</td><td>240</td><td>110</td></tr></table> a)SELECT Movie_name, Genre FROM CINEMA WHERE Genre IN ('Comedy', 'Action'); b)SELECT Movie_name,TicketPrice+ 50 AS NEW_PRICE FROM CINEMA; c) SELECT Movie_name, Genre FROM CINEMA WHERE Genre <> 'Drama' AND TICKET_PRICE >240; d)SELECT Movie_name,TicketPrice * Seats FROM CINEMA; e)Write the query to generate the following output: <table><tr><td>Movie_name</td><td>TicketPrice</td></tr><tr><td>Chaava</td><td>250</td></tr><tr><td>Sky Force</td><td>300</td></tr><tr><td>Raid 2</td><td>280</td></tr></table>	2	Stree 2	Horror Comedy	220	80	3	Sky Force	Action	300	150	4	Taare Zameen Par	Drama	180	95	5	Raid 2	Crime Thriller	280	110	6	Housefull 5	Comedy	240	110	Movie_name	TicketPrice	Chaava	250	Sky Force	300	Raid 2	280	
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Movie_name	TicketPrice																																		
Chaava	250																																		
Sky Force	300																																		
Raid 2	280																																		
37	A dictionary in Python stores key–value pairs. Consider the following dictionary: student = {"name": "Amit", "age": 17,"marks": 87,"class":12,"sec": "A"} Answer the following: (do sequentially) a)Add a new key “Club” with value “Dramatics”. b)Write the code to update the age to 18. c) What will be the output of print(student.get("Name")) d) Find the output of following code: del student[‘marks’] print(student) e)Write the code to add following dictionary in the student dictionary : address={“name”: “Amita”, “house no”:123,“sector”: 49”, “pincode”:121001} OR Consider the following list: BookTitle = [“Python Basics”, “SQL Guide”, “Cyber Safety”, “Data Science”, “Web Tech”] a)To check whether a “Data Science” book is in the list. b)To check the total number of books available. c)To find the position of the “Cyber Security” book in the list. d)To delete the book “SQL Guide”. e)Arrange the books in descending order by their titles.	1*5=5																																	