Delhi Public School, Howrah

FINAL EXAMINATION (2024-2025)

CLASS – XI

Care must be taken not to write anything on the question paper. All the questions must be attempted in the correct sequence.

SUBJECT: INFORMATICS PRACTICES (065)

THEORY EXAMINATION

Time Allowed:- 3 Hours **F.M.-70**

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

1.	Financial accounting software is a type of _____ software. (a) General Purpose (b) Specific Purpose (c) Open Source (d) Utility	(1)
2.	ROM is _____ in nature. (a) volatile (b) non-volatile (c) a random storage component (d) visual component	(1)
3.	Which of the following statements about Python is false? (a) Python is case-sensitive (b) Python is an interpreted language (c) Python requires declaration of variable types (d) Python supports object-oriented programming	(1)
4.	Which of the following data types is used to store whole numbers? (a) float (b) int (c) string (d) char	(1)
5.	What will be the output of the following operation? L1 = [1, 2] L2 = [3, 4] (L1 + L2) * 2 (a) [2, 4, 6, 8] (b) [1, 2, 3, 4, 1, 2, 3, 4] (c) [1, 3, 4, 4] (d) [3, 4, 1, 2]	(1)
6.	Choose the correct option from the following expression: str1 = “pen” print (list(str1)) (a) [pen] (b) {p, e, n} (c) ['p', 'e', 'n'] (d) [p, e, n]	(1)
7.	The sequential accessing of each of the elements in a list is called _____. (a) List Traversal (b) List Indexing (c) List Slicing (d) List Accessing	(1)
8.	To create an empty dictionary, we use the statement as: (a) d1 = {} (b) d1 = [] (c) d1 = () (d) d1 = dictionary()	(1)

9.	The block that is termed as an iterative block? (a) if-elif (b) if-else (c) for (d) if	(1)
10.	Select the correct option to get the values of marks key: Student = {"name": "Emma", "Class": 11, "sec": "a", "marks" : 76} (a) Student.get(3) (b) Student("marks") (c) Student.get("marks") (d) Student.get(76)	(1)
11.	_____ is a set of one or more attributes that can uniquely identify tuples within the relation. (a) Candidate key (b) Primary key (c) Alternate key (d) Foreign key	(1)
12.	What is a database? (a) Organized collection of information that cannot be accessed, updated and merged (b) Collection of data or information without organizing (c) Organized collection of data or information that can be accessed and updated with effective redundancy removal (d) Organized collection of data where data is inconsistent	(1)
13.	The _____ allows you to perform tasks related to the structure of a database table. (a) DDL (b) DML (c) DQL (d) TCL	(1)
14.	The MODIFY clause can be used with _____ table command to change the data type, size and constraint related to any column of the table. (a) Select (b) Rename (c) Alter (d) Update	(1)
15.	_____ command helps to see the structure of a table/relation. (a) Fetch (b) Select (c) Show (d) Desc/Describe	(1)
16.	Which of the following are DDL commands? (i) Delete (ii) Create (iii) Update (iv) Alter (v) Drop (a) (ii), (iv) and (v) (b) (i), (ii) and (iv) (c) (ii), (iii) and (iv) (d) (i), (ii) and (v)	(1)
17.	Where is computer-assisted translation used in everyday life? (a) Training TV hosts (b) Spellcheckers used in word process (c) Dictation tests (d) Recording weather conditions	(1)
18.	A company interested in cloud computing is looking for a provider who offers a set of basic services such as virtual server provisioning and on-demand storage that can be combined into a platform for deploying and running customized applications. What type of cloud computing model would fit these requirements? (a) Platform as a Service (b) Software as a Service (c) Infrastructure as a Service (d) Service as a Provider	(1)
19.	IoT stands for _____. (a) Industry of Things (b) Internet of things (c) Intelligence of things (d) Integrity of things	(1)
Q20 and Q21 are ASSERTION (A) AND REASONING (R) 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 but 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):** You may not get back the data in the same order in which you had entered the data initially in a dictionary during data retrieval. **Reason (R):** Items in a dictionary are unordered.	(1)
21.	**Assertion (A):** A database can have only one table in SQL. **Reason (R):** If a piece of data is stored in two places in the database, it leads to wastage of storage space.	(1)
SECTION – B (2 X 7 = 14 Marks)		
22.	State two differences between compiler and interpreter.	(2)
23.	Define the term Augmented Reality. State one application area of Augmented Reality.	(2)
24.	i. Convert the following for loop block into a while loop construct: for x in range (5): print (x) OR ii. Write the output of the following:	(2)

```
for x in range (2):
        for y in range (2):
                print (x, y, x+y)
```

25. Rewrite the following code in Python after removing all the errors. Underline each correction done in the code: (2)

```
d1 = dict[]
i = 1
n = input ("Enter number of entries:")
while i<=n:
        a = input ("Enter name:")
        b = input ("Enter age:")
        d1(a) = b
        i = i+1
l=d1.key[]
for I in l:
        print (I,d1[i])
```

26. Consider a database named Library with a table named Books with the following fields: (2)

- BookID (Primary Key)
- BookTitle
- Author
- Price
- Quantity

Write the SQL query to:
i. Create the database.
ii. Create the table.

27. i. State the difference between the del command and pop() method when implemented upon a dictionary with examples. (2)

OR

ii. Differentiate between the dictionary methods get() and items() with their syntax.

28. i. What do you understand by cloud computing? Describe two benefits of it. (2)

OR

ii. Differentiate between Cloud Computing and Grid Computing.

SECTION – C (3 X 3 = 9 Marks)

29. (i) Consider the table 'MODEL' given below and write SQL commands for (i) to (iii) as directed: (3)

TABLE: MODEL

MODEL_ID	Comp_ID	Cost	DateofManufacture
M030	1	2000	2010-05-12
M032	4	7000	2009-04-15
M059	2	800	2009-09-23
A167	3	1200	2011-01-12
T024	1	1300	2009-10-14

Note: Model_ID is the Primary Key.

Write the SQL commands for the following based on the MODEL table given above.

(a) To display the details of all the models in the Model table.
(b) To display the details of those models manufactured in 2011 and whose cost is below 2000.
(c) To decrease the cost of all the models in the Model table by 15%.

OR

(ii) Consider the table 'PRODUCT' given below and write SQL commands for (i) to (iii) as directed:

Table Name: PRODUCT

P_ID	ProductNames	Manufacturer	PRICE	ExpiryDate
TP01	Talcum Powder	Hindustan Unilever	135	2011-06-26
FW05	Face Wash	Mama Earth	220	2010-12-01
BS01	Bath Soap	Hindustan Unilever	60	2010-09-10
SH06	Shampoo	L'Orèal	380	2012-04-09
FW12	Face Wash	Mama Earth	75	2010-08-15

	a. Display the name of the manufacturer whose products are face wash based. b. Increase the price of the products in product table by 10%. c. To display the ProductName, Manufacturer and ExpiryDate of all the products that expired on or before '2010-12-31'.	
30.	(i) Write a Python program to print the Fibonacci series up to a user given limit. The Fibonacci series is as follows 1 1 2 3 5 8 13 21……..n. **OR** (ii) Write a program script in Python that will print the following series: 1 3 3 5 5 5 7 7 7 7 9 9 9 9 9	(3)
31.	i. Kunal has entered the following SQL commands in the table 'STUDENT' that has TotalMarks as one of the columns: **SELECT * FROM Student;** **#Statement-1** The total number of rows displayed is 20. Then Kunal enters the following command: **SELECT * FROM STUDENT WHERE TotalMarks < 100;** **#Statement-2** The number of rows displayed is 15. Kunal then enters the following command: **SELECT * FROM STUDENT WHERE Total Marks >= 100;** **#Statement-3** He predicts the output of the above query as 5. Do you agree with Kunal? Give reasons for your answer. **OR** ii. (a) Mr. Shivaya is using a table 'COURSE' with the following columns: **COURSE_ID, COURSE_NAME** He needs to display the names of all the courses which end with "SCIENCE". He has written the query mentioned below, which is not giving the desired result. **SELECT COURSE_ID, COURSE_NAME FROM COURSE WHERE COURSE_NAME = 'SCIENCE';** Help Mr. Shivaya to write the correct query. (b) Ms. Manisha, a veterinarian, created a table "VETERINARY" with the following columns: **ANIMAL_ID, VACCINATION_DATE, ANIMAL, OWNER_NAME**. She wants to see the details of all the animals other than Dog and Cat which she has vaccinated. She has written the following query: **SELECT * FROM VETERINARY WHERE ANIMAL NOT IN ('DOG', 'CAT');** Write a suitable alternate query for producing the same result.	(3)
	SECTION – D (4 X 4 = 16 Marks)	
32.	Rajat is using an AI chat bot to get the output of the following code. He now wants to match the generated output with his manual calculation in order to check the efficiency of the bot. Predict the output of the code given below and explain the possible reason for obtaining the same. D={'A' : 23, 'B': 56, 'C': 29, 'D': 42, 'E': 78} val = [] v = D.values() for i in v: val.append(i) val.sort() print ("Two maximum values are") print (val [-1]) print (val [-2]) **OR** Rakesh's teacher has given him the following dictionary 'mon' and have instructed him to perform as directed in a class test. Answer the following and help him score good marks. mon = {'Jan':31, 'Feb':28, 'Mar':31, 'April':30} i. Find the incorrect statement(s) out of the following. Rewrite the statement(s) correctly:	(4)

(a) print (mon('Jan'))
(b) print (mon[28])

ii. Write the output of the following code snippet when performed on the given dictionary:

```
mon ["Feb"] = 29
print (mon)
del mon ["April"]
print (mon)
mon.clear()
print (mon)
```

33. Write a program in Python which accepts a number from the user and prints the frequency of the number in the list LST = [3, 21, 5, 6, 3, 8, 21, 6]. If the number is not present in LST, it should print "Number not found". (4)

Example: Enter Element: 6
The frequency of the number 6 is 2.

34. Preeti manages database in a blockchain start-up. For business purposes, she created a table named BLOCKCHAIN. Assist her by writing the following queries: (4)

Table Name: BLOCKCHAIN

ID	USER	VALUE	HASH_CODE	TRANSACTION_DATE
1	Steve	900	ERTYU	2020-09-19
2	Meesha	145	@345r	2021-03-23
3	Nimisha	567	#wert5	2020-05-06
4	Pihu	678	%rtyu	2022-07-13
5	Kopal	768	rrt4%	2021-05-15
6	Palakshi	534	wer@3	2022-11-29

i. Display USER and HASH_CODE from the table BLOCKCHAIN who have made transactions before 2021.
ii. Update the HASH_CODE to NULL where the VALUE is 534.
iii. Display the USER and HASH_CODE from the table in the descending order of the VALUE.
iv. To display the name of the users ending with "a".

35. Meenakshi has been given the list marks = [45, 67, 89, 12, 54, 34, 21] to perform some list manipulation operation. Help her by writing program snippets for the following. (4)

i) Find the largest and smallest numbers in the list.
ii) Reverse the list.
iii) Sort the list in descending order and print the index position of the smallest item.

SECTION – E (5 X 2 = 10 Marks)

36. Write a Python script to convert a number entered by the user into its corresponding number in words. For example, if the input is 985, then the output should be 'Nine Eight Five'. (5)

37. Kabir, a database admin has created the following table named Exam: (5)

Table Name: ABC

RegNo	Name	Subject	Marks
1	Sanya	CS	98
2	Sanchay	IP	100
3	Vinesh	CS	28
4	Sneha	IP	57
5	Akshita	IP	83

Help him in writing SQL queries to perform the following task:
i. Insert a new record in the table having the values: [6,'Khushi','CS',85]
ii. To change the value "IP" to "Informatics Practices" in subject column.
iii. To remove the records of those students whose marks are less than 30.
iv. (a) To add a new column Grade of suitable datatype.

OR

(b) To rename the column Marks to Sub_Marks.

v. To display records of "Informatics Practices" subject.