



INDIAN SCHOOL SOHAR
TERM – II EXAMINATION (2023-24)
INFORMATICS PRACTICES (065)

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CLASS: XI
DATE: 22/02/2024

MAX. MARKS: 70
TIME: 3 HOURS

GENERAL INSTRUCTIONS: -

1. This question paper contains five sections, Section A to E.
2. All the questions are compulsory.
3. Section A has 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 02 questions carrying 04 marks each.
7. Section E has 03 questions carrying 05 marks each.
8. All programming questions are to be answered using Python language only.

SECTION - A

1. Web Browsers and Desktop Publishing programs are the examples of _____.
a) General Purpose Software b) Customized Software
c) Operating System d) System Utilities
2. Which of the following type of software is available free of cost but does not allow modification and source code is not available?
a) Free software b) Proprietary software
c) FLOSS d) Freeware
3. Which of the following converts the program written in assembly language into machine language?
a) Compiler b) Interpreter c) Assembler d) All of these
4. Which of the following is not an advantage of databases?
a) reduces data redundancy b) ensures data dependence
c) allows sharing of data d) enforce standards
5. Which of following command is a DDL command?
a) Create b) Insert c) Delete d) Update
6. In a database, if there are multiple copies of mismatched data then it is known as _____.
a) data redundancy b) data inconsistency c) data security d) data isolation
7. Predict the output:
x, y = -2, 2
for i in range(-4, 4, -3):
 x *= i
 y -= i
print(x, end= "-")
print(y, end= "5")
a) -4-5 b) -27 c) -16-55 d) -2-25

8. Hiten is working as a cloud computing engineer. He is working on a project which includes operating system, programming language execution environment, web server, etc. Suggest the type of cloud service he requires along with the service provider.
 - b) PaaS and Rackspace
 - c) SaaS and Heroku
 - b) IaaS and Rackspace
 - d) PaaS and Heroku
 9. Which of the following is a characteristic of cloud computing?
 - a) 24x7 self-service
 - b) rapid pooling
 - c) measured service
 - d) resource elasticity
 10. Japan's _____ is used for disaster management.
 - a) Robonaut
 - b) Packbot
 - c) DiMabot
 - d) DiMaJbot
 11. _____ refers to the ability of computers to independently find solutions to problems by recognizing patterns in databases using statistical techniques.
 - a) Augmented Reality
 - b) Virtual Reality
 - c) Machine Learning
 - d) Robotics
 12. In which technology, it is hard to differentiate between what is real and what is not real?
 - a) Virtual Reality
 - b) Augmented Reality
 - c) Artificial Intelligence
 - d) Machine Learning
 13. Krishna is analyzing enormous amount of data that is generated by the application. After analysis, he has found that many records are valuable and generates a meaningful overall result. Such type of data can be referred as _____.
 - a) High Velocity
 - b) High Veracity
 - c) High Variety
 - d) High Value
 14. Tina wants to change the name of a field Odt to OrderDate in Sales table. Which of the following SQL query is correct?
 - a) Alter Table Sales CHANGE Odt OrderDate date;
 - b) Alter Table Sales MODIFY Odt OrderDate date;
 - c) Alter Table Sales CHANGE Odt date OrderDate date;
 - d) Alter Table Sales ALTER Odt OrderDate date;
 15. Which of the following is **NOT** a disadvantage of file-based approach of storing data?
 - a) Data Redundancy
 - b) Data Inconsistency
 - c) Control Issues
 - d) Data Independence
 16. Equivalent exponent form of 0.0004404 is
 - a) 44.04E-5
 - b) 4.404E-5
 - c) 44.04E5
 - d) 4.404E5
- Q17 and Q18 are **ASSERTION AND REASONING** based questions. Mark the correct choice as:
- i. Both A and R are True and R is the correct explanation for A
 - ii. Both A and R are True and R is not the correct explanation for A
 - iii. A is True but R is False
 - iv. A is False but R is True
17. **Assertion (A):** In SQL, DROP command is a DDL command.
Reasoning (R): DROP command is used to delete all the records from a database table.
 18. **Assertion (A):** In Python, del statement can be used to delete some elements in a list.
Reasoning (R): In Python, a list is a mutable datatype.

SECTION – B

19. Explain domain in DBMS with an appropriate example.

OR

Pankaj has created a table 'Achievers', with the column department containing unique values and salary containing values less than Rs. 25,000. He wants to insert the following records in the table:

Table: ACHIEVERS			
ENO	ENAME	DEPT	SALARY
104	PRERNA	IT	25000
205	MUKUL	HR	18300
127	HARDIK	IT	24500
190	RATI	FINANCE	21000

Pankaj is getting error(s) while inserting these records in the 'Achievers' table. Identify the reason for these errors.

20. Predict the output of the following Python code:

```
d_capital = {'Russia':'Moscow', 'Germany':'Berlin', 'France':'Rome'}  
d_country = {'France':'Paris', 'russia':'Bern'}  
print(d_capital.get('germany', 'Frankfurt'))  
d_capital.update(d_country)  
print(d_capital)
```

21. Mention the type of memory needed to perform the following tasks:

- i. to store the data permanently
- ii. to execute the program or instructions

22. Differentiate between DROP and DELETE SQL commands with a suitable example each.

23. Explain sensors with any two examples.

24. Write a python program which takes user input of a 3-digit number and display the 3-digit number in the reverse order.

For eg. input number is 549 and output should be 945.

25. Write a short note on Natural Language Processing.

SECTION – C

26. Consider the table STAFF and write SQL queries for the following:

EMPNO	ENAME	GENDER	DOB	DEPTNO	SAL
1001	RAHIM	M	2002-01-20	10	8500
1002	AMAR	M	2001-03-20	11	9500
1003	SURYA	F	2004-11-25	10	9000
1004	ANIL	M	2005-10-23	13	11000

- i. To display name, gender and salary of the employees who are not working in the department 10 and 13.
- ii. To display name, gender and salary of the employees who were born in the year 2005.
- iii. To display the detail of the employees whose salary lies in the range of 9000 to 10000.

OR

Predict the output of the following SQL queries based on the STAFF table given above:

- i. SELECT ENAME, DOB, SAL FROM STAFF WHERE SAL <= 9000;
- ii. SELECT EMPNO, ENAME, GENDER FROM STAFF WHERE DEPTNO IN (11, 13);
- iii. SELECT EMPNO, ENAME, SAL FROM STAFF WHERE GENDER = 'F';

27. Create a dictionary 'Sports' in Python using dict() function, with name of the player as key and game played as its respective value as data given below:

Player	Game
Sushant	Cricket
Priyanka	Badminton
Divya	Badminton
Ranveer	Football

Also write the Python statements for the following:

- i. Change the game of Ranveer to Volleyball.
- ii. Remove the key Divya with its value.

28. Write SQL statements for the following:

- i. Create and open the database FACTORY.
- ii. Create a table named MATERIALS based on the following specification:

Field Name	Datatype	Constraints
M_NAME	String(15)	Cannot be empty and must have distinct value.
M_RATE	Decimal(6,2)	Must be in the range of 1 to 5000

29. Consider the Python code given below and complete the statements to perform the following tasks given from (i) to (iii):

```
lst_people = [74, 49, 65, 93]
```

```
lst_people._____ Statement-1
```

```
res = _____ Statement-2
```

```
lst_people._____ Statement-3
```

```
new_lst = [52, 75]
```

```
lst_people._____ Statement-4
```

```
print(lst_people)
```

- i. To add a new element 63 at the index 2. (Statement-1)
- ii. To find the maximum element from the list. (Statement-2)
- iii. To delete the last element from the list. (Statement-3)

OR

- i. To add elements of list new_lst to lst_people. (Statement-4)
- ii. To delete the first element from the list. (Statement-3)
- iii. To find the sum of all the elements of the list. (Statement-2)

30. Consider a dictionary 'Products' as given below, which has product name as key and its price as respective value:

```
Products = {'Shampoo':230, 'Soap':79, 'Toothpaste':115}
```

```
print(Products)
```

- i. Check if the product shampoo exists in the dictionary or not.
- ii. Add a new key Brush with a value 49.
- iii. Display the price of Soap.

SECTION – D

31. Consider the table 'HOSPITAL' as given below:

Field	Type	Null	Key	Default
ID	int	YES		NULL
NAME	varchar(10)	YES		NULL
AGE	int	YES		NULL
DEPT	varchar(20)	YES		NULL
ADMDT	varchar(10)	YES		NULL
CHARGES	float	YES		NULL

Write the SQL queries for the following:

- Add Primary Key constraint to ID field.
 - Change the datatype of ADMDT field from varchar to date.
 - Rename the field DEPT to DEPARTMENT.
 - Add default constraint with value 500 to CHARGES.
32. Consider the dictionary 'Books' with title as key and its price as value, as given below:
Books = {'AI':325, 'C++':450, 'DBMS':360}

Write Python code or statement for the following:

- Find and display the average price of all the books.
- Display the list of values of all the books.
- Create the above dictionary 'Books' using zip().

OR (only for part iii)

Print the dictionary with indentation 5.

SECTION – E

33. Consider the table 'LOANS' as given below:

ACCNO	CUST_NM	LOAN_AMT	INSTALLMENTS	INT_RATE	STARTDT
1259	PREETI GAUR	300000	36	12.35	2009-07-19
1908	MUDRIKA SHAH	800000	60	9.75	2008-12-06
2390	VISHAL BHARDWAJ	500000	48	10.25	2007-03-22
2411	SHWETA GUPTA	350000	30	NULL	2013-03-08
2514	SACHIN BHOLE	450000	42	NULL	2018-01-03
3455	PRINCE GUPTA	200000	15	12.5	2021-01-03

Predict the output for the given SQL queries:

- SELECT CUST_NM, LOAN_AMT, STARTDT FROM LOANS WHERE STARTDT > '2020-12-31';
- SELECT CUST_NM, IFNULL(INT_RATE, "0% Interest") AS "INTEREST RATE" FROM LOANS WHERE INT_RATE IS NULL;
- SELECT CUST_NM, INT_RATE FROM LOANS WHERE LOAN_AMT BETWEEN 100000 AND 350000;
- SELECT * FROM LOANS WHERE CUST_NM LIKE '_u%';
- SELECT CUST_NM, INSTALLMENTS, INT_RATE FROM LOANS WHERE LOAN_AMT < 500000 AND INSTALLMENTS >= 36;

OR

- SELECT CUST_NM, LOAN_AMT, STARTDT FROM LOANS WHERE STARTDT < '2009-01-01';
- SELECT CUST_NM, "has taken loan of Rs.", LOAN_AMT FROM LOANS WHERE INT_RATE IS NULL;
- SELECT CUST_NM, INT_RATE FROM LOANS WHERE LOAN_AMT NOT BETWEEN 300000 AND 500000;
- SELECT ACCNO, LOAN_AMT, STARTDT FROM LOANS WHERE CUST_NM LIKE '%GUPTA';

v. SELECT CUST_NM, INSTALLMENTS, INT_RATE FROM LOANS WHERE LOAN_AMT BETWEEN 300000 AND 500000 AND INSTALLMENTS >= 40;

34. Predict the output of the following Python code fragments.

i. l1 = [1, '4', 5]

l2 = list(l1)

l3 = l1

l1[-2] = 9

print(l1)

print(l2, l3)

ii. j = 1

for i in range(1, 10, 3):

if i % 2 == 0:

print(-j, end = ' ')

else:

print(j, end = ' ')

j = j + 3

iii. print(not (14 < 15 and 20 > 18) or 50 / 5 ** 2 - 5 + 8 * 3)

iv. x = "HACKING - 2023"

print(len(x) + int(x[12]))

v. y = {"a":-4,"b":2,"c":5,"d":-1,"e":3,"f":5}

sum=0

for n in y.values():

sum+=n

print(sum)

35. Consider the tables "WATCHES" as given below and write SQL queries for the following:

ID	WATCHNAME	QTY	PRICE	TYPE	GST	VAT
104	Lamex	48	679	Unisex	334.5	NULL
112	Redo Time	73	1199	Men	637.4	333.75
107	Tatin	40	3499	Unisex	NULL	175.8
143	H-Shock	NULL	6859	Unisex	1805.2	1585.25
101	TIME GOLD	59	1299	Ladies	410.45	NULL
119	Waves	NULL	769	Men	350	375.35

- Decrease the price by 15% of the current price for all the watches whose name has 'TIME' in it.
- Display the watch details in the decreasing order of VAT amount of Unisex type.
- Display the total price for all the watches. (Total Price = QTY*PRICE)
- Display all the watch details whose GST or VAT is not mentioned.
- Display all non-duplicate type of watches.

OR

- Change the GST of all Men type watches to 20% of the current price.
- Display the watch details in the ascending order of price of all watches whose name does not contain 'TIME'.
- Display the total tax amount of all the watches. (Total Tax Amount = GST + VAT)
- Remove the DEFAULT constraint from TYPE field.
- Display all the watch details whose name is exactly 5 characters long.