

2018 (December)

INFORMATICS PRACTICES

Full Marks : 30

Time : 3 hours

SET-I (One)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to read length breadth of a rectangle and calculate its area. 4

Or

Write a Python program to read a temperature in Celsius and convert it into Fahrenheit. 4

2. Create a Pandas series that stores marks scored by a student in five different subjects with name of the subjects as indexes and then display the first two maximum marks. 4

Or

Create a Pandas DataFrame using the following two lists and then display the DataFrame: 4

Months=['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']

Days=[31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31]

GROUP – B

(SQL COMMANDS :: 4 MARKS)

3. Create a table "student" based on the following structure:

Column Name	Data Type	Size	Constraint
Roll No.	Integer	3	Primary key
Name	Varchar	25	
DOB	Date		
Address	Varchar	50	

Insert at-least four records into the table. Select the Name and DOB of all Students.

(2)

OR

Create a table "Department" based on the following structure:

Column Name	Data Type	Size	Constraint
Dept_ No.	Integer	3	Primary key
Dept_Name	Varchar	15	
Head_Dept_Name	Varchar	25	

Insert the following records into the table and display only those records whose Depy_No is less than 125:

111	Physics	Prof. S. Paul
123	Chemistry	Prof. M. Lyngdoh
132	Mathematics	Prof. S. Sharma
115	Computer Science	Prof. A. Upadhaya.

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SET-II (Two)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to check whether a number is odd or even. 4

Or

Write a Python program to read marks of five different subjects and then calculate the percentage of marks scored. Assume maximum marks in each subject is 100. 4

2. Create a Pandas series that stores ten different words with indexes as the first letter of each word. Sort the words in ascending order and then display the first two and the last two words of the sorted words. 4

Or

Create the following CSV file using MS-Excel and save the file as student.csv. 4

A	B	C	D	E	F	
1	Name	Age	Sex	Unit_Test1	Unit_Test2	Unit_Test3
2	Ajay	16	M	7.6	8.5	7.6
3						
4	John	16	M	8.6		
5	Samer	17	M	6.5	7.98.8	
6	Raj	15	M	6.8	7.7	7.9
7	Mercy	16	F	9.2	9	
8	Nancy	14	F	6.8	8.7	8.8
9						

Read the CSV File as DataFrame and then display the DataFrame.

GROUP – B
(SQL COMMANDS :: 4 MARKS)

3. Create a table "Employee" based on the following structure:

Roll No.	Name	Percentage	Division
1	Karan	89	First
5	Javed	40	Third
3	David	55	Second
2	Sukhbir	60	First
4	Suklang	50	Second

List only those records of students from the table 'Exam' whose Division is 'first ' in descending order of their Names.

OR

Create a table "Supplier" based on the following structure:

Colum Name	Data Type	Size	Constraint
Scode	Number	4	Primary, Not Null
Product_Name	Varchar	15	
Supplier_Name	Varchar	15	
Quantity	Number	5	
Price	Number	6,2	

Insert the following records into the table and display all the records.

101	Coffee	Nestle	200	55.00
102	Jam	Kissan	100	10.50
103	Chocolate	Cadbury	150	25.00
104	Cake	Britania	50	20.00

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SET-III (Three)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to read the base and height of a triangle and calculate its area. 4
Or
Write a Python program read the radius of a circle and calculate its area 4
2. Create a Pandas series that stores five names of students with their rollnos as indexes, Display last two records only. 4
Or
Create a Pandas DataFrame using the following two lists and then display the DataFrame: 4
Name=['Jhon', 'Albert', 'Marshal', 'Anu', 'Maya', 'June', 'Jully', 'Augustine', 'Seeta', 'Akash']
Days=[31, 28, 35, 20, 11, 13, 23, 05, 30, 45]

GROUP – B

(SQL COMMANDS :: 4 MARKS)

3. Create a table "Employee" based on the following structure:

Column Name	Data Type	Size	Constraint
Emp_ No.	Integer	3	Primary key
Emp_ Name	Varchar	25	
Department	Varchar	15	
Salary	Decimal	8,2	

Insert at-least four records into the table. Select all the records with Salary>15000.

(2)

OR

Create a table "Teacher" based on the following structure:

Colum Name	Data Type	Size	Constraint
Teacher_Id	Char	4	Unique, Not Null
Teacher_Name	Varchar	25	
Department	Varchar	15	
Salary	Number	8,2	

Insert the following records into the table and display all the records.

E11	English	Prof. G. Upadhaya	50000
C11	Chemistry	Prof. P. Sharma	55000
M12	Mathematics	Prof. S. Marwein	60000
CS1	Computer Science	Prof. T. R. Dhar	58000

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Full Marks : 30

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SET-IV (Four)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to read a year as input and check if it is leap year or not. 4

Or

Write a Python program read radius of a circle and then print its circumference.
(Take pi = 3.14) 4

2. Create a Pandas series that stores five different words with indexes as the first letter of each word. Sort the words in ascending order and then display the first two and the last two words of the sorted words. 4

Or

Create a Pandas DataFrame using the following table and then display the Dataframe: 4

Roll No.	Name	Weight(in Kg.)
10	Robert	58.5
22	Albert	60.0
31	Mercy	45.5
45	Lucy	48.0

(2)

GROUP – B
(SQL COMMANDS :: 4 MARKS)

3. Create a table "Employee" based on the following structure:

Roll No.	Name	Percentage	Division
1	Karan	89	First
5	Javed	40	Third
3	David	55	Second
2	Sukhbir	60	First
4	Suklang	50	second

List only those records of students from the table 'Exam' whose Division is 'first ' in descending order of their Names.

OR

Create a table "Supplier" based on the following structure:

Column Name	Data Type	Size	Constraint
Scode	Number	4	Primary, Not Null
Product_Name	Varchar	15	
Supplier_Name	Varchar	15	
Quantity	Number	5	
Price	Number	6,2	

Insert the following records into the table and display all the records.

101	Coffee	Nestle	200	55.00
102	Jam	Kissan	100	10.50
103	Chocolate	Cadbury	150	25.00
104	Cake	Britania	50	20.00

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2018 (December)

INFORMATICS PRACTICES

Full Marks : 30

Time : 3 hours

SET-V (Five)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to produce following output: 4

```
*
* *
* * *
* * * *
* * * * *
```

Or

Write a Python program to calculate the factorial of a positive number. 4

2. Create a Pandas series that stores five different words with indexes as the first letter of each word. Sort the words in ascending order and then display the first two and the last two words of the sorted words. 4

Or

A dictionary called 'student' contains the following data: 4

Name	Tmarks	Address
Ajay Das	460	Laban
Satyam Sharma	480	Mawprem
Mark Lyngdoh	450	Police Bazar
Kabir Bedi	400	Malki

Based on the data Create an application to demonstrate pandas dataframe for the following operations:

(a) Create the dictionary

(2)

- (b) Assigning the DataFrame columns as: columns=['Name', 'Tmarks', 'Address']
- (c) Print the DataFrame
- (d) Print the column as Address, name, Tmarks
- (e) Print the rows whose Tmarks>450.

GROUP – B

(SQL COMMANDS :: 4 MARKS)

3. Create a table "Employee" based on the following structure:

Field Name	Data Type	Size	Constraints
Acc_No	Number	10	Not Null, Primary
Cust_Name	Varchar	30	Not Null
Cust_Address	Varchar	40	
Mobile_No.	Number	11	
Account_Type	Char	15	Default='SAVING'
Balance_Amt	Number	10,2	

OR

- Create a table "Hospital" based on the following structure:

Column Name	Data Type	Size	Constraint
Patient_No.	Number	4	Primary
Patient_Name	Char	25	Unique
Age	Int	2	
Department	Char	15	Default="OPD"
Date_Adm	Date		Default SYSDATE

Insert the following records into the table and display all the records.

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2018 (December)

INFORMATICS PRACTICES

Full Marks : 30

Time : 3 hours

SET-VI (Six)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to produce following output:

4

```
*  
* *  
* * *  
* * * *  
* * * * *
```

Or

Write a Python program to generate the first seven terms of the Fibonacci series (first 5 terms Fibonacci series is 0 1 1 2 3).

4

2. Open an Ms-Excel and create the following and save as Admission.csv

4

Student_Name	Admission_Number	Mobile_Number	Date_of_Birth
Simran Kaur	Sh_123	9860000012	2003-01-23
Barun Dhar	Sh_124	9860000013	2003-10-12
Suraj Joshi	Sh_125	9860000014	2003-11-01

Now write a program to do following operations:

- (1) Create a DataFrame(df) to read the above file.
- (2) Print the DataFrame in ascending order of Names with only headings Student_Name Admission_Number and Date_of_Birth.

(2)

OR

Create a Pandas series that store five names of students with their rollnos as indexes. Display the last two records only.

GROUP – B
(SQL COMMANDS :: 4 MARKS)

3. Create a table "Employee" based on the following structure:

Field Name	Data Type	Size	Constraints
Acc_No	Number	10	Not Null, Primary
Cust_Name	Varchar	30	Not Null
Cust_Address	Varchar	40	
Mobile_No.	Number	11	
Account_Type	Char	15	Default='SAVING'
Balance_Amt	Number	10,2	

OR

Create a table "Hospital" based on the following structure:

Column Name	Data Type	Size	Constraint
Patient_No.	Number	4	Primary
Patient_Name	Char	25	Unique
Age	Int	2	
Department	Char	15	Default="OPD"
Date_Adm	Date		Default SYSDATE

Insert the following records into the table and display all the records.

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2018 (December)

INFORMATICS PRACTICES

Full Marks : 30

Time : 3 hours

SET-VII (Seven)

(Answer question 1 and 2 from Group-A and One question from Group-B)

GROUP – A

(PYTHON PROGRAMMING :: 8 MARKS)

1. Write a Python program to read the base and height of a triangle and calculate its area.

Or

Write a Python program read the radius of a circle and calculate its area.

2. Create a Pandas series that stores five names of students with their rollnos as indexes, Display last two records only.

Or

Create a Pandas DataFrame using the following two lists and then display the DataFrame:

Name=['Jhon', 'Albert', 'Marshal', 'Anu', 'Maya', 'June', 'Jully', 'Augustine', 'Seeta', 'Akash']

Days=[31, 28, 35, 20, 11, 13, 23, 05, 30, 45]

GROUP – B

(SQL COMMANDS :: 4 MARKS)

3. Create a table "Employee" based on the following structure:

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Emp_ Name	Varchar	25	
Department	Varchar	15	
Salary	Decimal	8,2	

Insert at-least four records into the table. Select all the records with Salary>15000.

(2)

OR

Create a table "Teacher" based on the following structure:

Colum Name	Data Type	Size	Constraint
Teacher_Id	Char	4	Unique, Not Null
Teacher_Name	Varchar	25	
Department	Varchar	15	
Salary	Number	8,2	

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C11	Chemistry	Prof. P. Sharma	55000
M12	Mathematics	Prof. S. Marwein	60000
CS1	Computer Science	Prof. T. R. Dhar	58000

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