

SAMPLE PAPER-VI SEE CLASS – XI INFORMATICS PRACTICES

Session Ending Exam 2018-19

Subject: Informatics Practices (Theory-065)-Python

Max. Marks. 70

Time: 3Hrs.

Instructions:

- All questions are compulsory. Programming language: Python
- Read the question carefully and then answer.

SECTION-A

Q.1	Compare the calculator and computer in your words.	1
Q.2	What are two main types of cache memory?	1
Q.3	Write the names of two input and two output devices.	2
Q.4	What are the different parts of CPU? Explain every part in brief.	2
Q.5	Which of the following are hardware and software? (i) Capacitor (ii) Internet Explorer (iii) Hard disk (iv) UNIX	1
Q.6	A- Who developed python ? B- Python is case sensitive or not . C- Python is Open Source Software , What do you understand by open source .	1 1 1
Q.7	What are the supported data types of python.	2
Q.8	A- Predict the output of - print str [2:5] if str = 'hello word' B- Predict the output - print str*2 if str = ' Kendriya'	2 1
Q.9	Write a Python program to display the first and last colors from the following list. List1 == ["violet", "indigo", "blue", "green", "yellow", "orange", "red"]	2
Q.10	What is the purpose of ** and * .	2
Q.11	What is the purpose of pass statement.	1
Q.12	What is the difference between lists and tuples? Give an example for their usage.	2
Q.13	Explain the purpose of loop structures in a programming language. Describe the syntax and semantics of one loop structure provided by Python.	3
Q.14	What is String? How do you create a string in Python?	2

Q.15	Area of triangle is given by the formula:- $\sqrt{s(s-a)(s-b)(s-c)}$ where a, b and c are the sides of the triangle and $s=(a+b+c)/2$. Write a program in Python to compute the area of the triangle.	3
Q.16	Write a program to check whether entered string is palindrome or not.	3
Q.17	Write a line of code to execute infinite loop in python.	1
Q.18	Write the python program to convert temperature from Fahrenheit to Celsius.	2
Q.19	Write a Python program to print multiplication table from 2 to 10.	2
SECTION-B		
Q.22	Whether Series is a one-dimensional labeled array capable of holding any data type.	1
Q.23	Write the output for following python code - Def calc () : Return [lambda x : i * x for i in range(4)] Print [m(2) for m in calc()]	3
Q.24	Write the code to sort an array in NumPy by the (n-1)th column?	2
Q.25	Write two features of a dictionary.	2
Q.26	What are the three types of import statement in Python? Explain.	3
Q.27	Define the following : Series and Data frame.	2
Q.28	Write the program to convert a panda module series to python list and its types.	2
Q.29	What will be the output of the below code: def foo (i= []): i.append (1) return i >>> foo () >>> foo ()	2
SECTION C		
Q.30	What are the common MySQL functions?	1
Q.31	What is the difference between primary key and candidate key?	2

Q.32	What do DDL, DML, and DCL stand for?	2																																										
Q.33	<p>Create a table for following structure -</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Type</th> <th>Null</th> <th>Key</th> <th>Default</th> <th>Extra</th> </tr> </thead> <tbody> <tr> <td>name</td> <td>varchar(20)</td> <td>YES</td> <td></td> <td>NULL</td> <td></td> </tr> <tr> <td>owner</td> <td>varchar(20)</td> <td>YES</td> <td></td> <td>NULL</td> <td></td> </tr> <tr> <td>species</td> <td>varchar(20)</td> <td>YES</td> <td></td> <td>NULL</td> <td></td> </tr> <tr> <td>sex</td> <td>char(1)</td> <td>YES</td> <td></td> <td>NULL</td> <td></td> </tr> <tr> <td>birth</td> <td>date</td> <td>YES</td> <td></td> <td>NULL</td> <td></td> </tr> <tr> <td>death</td> <td>date</td> <td>YES</td> <td></td> <td>NULL</td> <td></td> </tr> </tbody> </table>	Field	Type	Null	Key	Default	Extra	name	varchar(20)	YES		NULL		owner	varchar(20)	YES		NULL		species	varchar(20)	YES		NULL		sex	char(1)	YES		NULL		birth	date	YES		NULL		death	date	YES		NULL		2
Field	Type	Null	Key	Default	Extra																																							
name	varchar(20)	YES		NULL																																								
owner	varchar(20)	YES		NULL																																								
species	varchar(20)	YES		NULL																																								
sex	char(1)	YES		NULL																																								
birth	date	YES		NULL																																								
death	date	YES		NULL																																								
Q.34	Difference between update and alter command	2																																										
Q.35	Define projection in terms of mysql .	1																																										
Q.36.	Write the appropriate usage of social networks.	1																																										
Q.37	Define eavesdropping and phishing	2																																										
Q.38	Difference between virus and Trojan horse	2																																										
Q.39	What is cyber bullying .	1																																										

Max. Marks. 70

Time: 3Hrs.

Instructions:

- All questions are compulsory. Programming language: Python
- Read the question carefully and then answer.

SECTION-A

Q.1	Compare the calculator and computer in your words. Calculator perform specific mathematical & scientific calculation with low memory.	1
Q.2	What are two main types of cache memory? Two types of caching are commonly used in personal computers: memory caching and disk caching. A memory cache (sometimes called a cache store, a memory buffer, or a RAM cache) is a portion of memory made up of high-speed static RAM (SRAM) instead of the slower and cheaper dynamic RAM (DRAM)	1
Q.3	Write the names of two input and two output devices. Input:- Keyboard, mouse Output:- Monitor, Printer	2
Q.4	What are the different parts of CPU? Explain every part in brief. The two typical components of a CPU include the following: The arithmetic logic unit (ALU), which performs arithmetic and logical operations . The control unit (CU), which extracts instructions from memory and decodes and executes them, calling on the ALU when necessary.	2
Q.5	Which of the following are hardware and software? (i) Capacitor (ii) Internet Explorer (iii) Hard disk (iv) UNIX hardware - Capacitor, Hard disk software- Internet Explorer, UNIX	1
Q.6	A- Who developed python ? Guido van Rossum B- Python is case sensitive or not . Yes C- Python is Open Source Software , What do you understand by open source . open source means that the language is not proprietary, and with certain provisions (depending on the open source license), can be modified or built upon in a manner that is open to the public.	1 1 1
Q.7	What are the supported data types of python. bool : Boolean (true/false) types. Supported precisions: 8 (default) bits. int : Signed integer types. ... uint : Unsigned integer types. ...	2

	<p>float: Floating point types. ...</p> <p>complex: Complex number types. ...</p> <p>string: Raw string types. ...</p> <p>time: Data/time types. ...</p> <p>enum: Enumerated types.</p>							
Q.8	<p>D- Predict the output of – print str [2:5] if str = ‘hello word’</p> <p>E- Predict the output – print str*2 if str = ‘ Kendriya’</p>	2 1						
Q.9	<p>Write a Python program to display the first and last colors from the following list.</p> <pre>List1 == ["violet", "indigo", "blue", "green", "yellow", "orange", "red"] print (List1[0], List[6])</pre>	2						
Q.10	<p>What is the purpose of ** and * .</p> <p>** is used to perform exponent.</p> <p>* is used to perform multiplication.</p>	2						
Q.11	<p>What is the purpose of pass statement.</p> <p>pass statement is used as null operation when it required syntactically and no need to execute.</p>	1						
Q.12	<p>What is the difference between lists and tuples? Give an example for their usage.</p> <p>The key difference is that tuples are immutable . This means that you cannot change the values in a tuple once you have created it. As a list is mutable , it can't be used as a key in a dictionary, whereas a tuple can be used. Lists are for variable length , tuples are for fixed length</p>	2						
Q.13	<p>Explain the purpose of loop structures in a programming language. Describe the syntax and semantics of one loop structure provided by Python.</p> <p>A loop statement allows us to execute a statement or group of statements multiple times.</p> <p>The following diagram illustrates a loop statement –</p> <p>Python programming language provides following types of loops to handle looping requirements.</p> <table border="1" data-bbox="277 1360 1484 1923"> <thead> <tr> <th>Sr.No.</th> <th>Loop Type & Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td> <p>while loop</p> <p>Repeats a statement or group of statements while a given condition is TRUE. It tests the condition before executing the loop body.</p> </td> </tr> <tr> <td>2</td> <td> <p>for loop</p> <p>Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.</p> <p>Syntax</p> </td> </tr> </tbody> </table>	Sr.No.	Loop Type & Description	1	<p>while loop</p> <p>Repeats a statement or group of statements while a given condition is TRUE. It tests the condition before executing the loop body.</p>	2	<p>for loop</p> <p>Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.</p> <p>Syntax</p>	3
Sr.No.	Loop Type & Description							
1	<p>while loop</p> <p>Repeats a statement or group of statements while a given condition is TRUE. It tests the condition before executing the loop body.</p>							
2	<p>for loop</p> <p>Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.</p> <p>Syntax</p>							

	<pre> for iterating_var in sequence: statements(s) </pre>	
Q.14	<p>What is String? How do you create a string in Python? String is collection of character or array of characters We can create String simply by enclosing characters in quotes. Python treats single quotes the same as double quotes. Creating strings is as simple as assigning a value to a variable. For example – var1 = 'Hello World!' var2 = "Python Programming"</p>	2
Q.15	<p>Area of triangle is given by the formula:- $\sqrt{s(s-a)(s-b)(s-c)}$ where a, b and c are the sides of the triangle and $s=(a+b+c)/2$. Write a program in Python to compute the area of the triangle.</p> <pre> # Python Program to find the area of triangle # Three sides of the triangle a, b and c are provided by the user a = float(input('Enter first side: ')) b = float(input('Enter second side: ')) c = float(input('Enter third side: ')) # calculate the semi-perimeter s = (a + b + c) / 2 # calculate the area area = (s*(s-a)*(s-b)*(s-c)) ** 0.5 print('The area of the triangle is %0.2f' %area) </pre>	3
Q.16	<p>Write a program to check whether entered string is palindrome or not.</p> <pre> string=input("Enter string:") if(string==string[::-1]): print("The string is a palindrome") else: print("The string isn't a palindrome") </pre>	3

Q.17	Write a line of code to execute infinite loop in python. import time def your_function(): print("Hello, World") while True: your_function() time.sleep(10)	1
Q.18	Write the python program to convert temperature from Fahrenheit to Celsius. Fahrenheit = int(raw_input("Enter a temperature in Fahrenheit: ")) Celsius = (Fahrenheit - 32) * 5.0/9.0 print "Temperature:", Fahrenheit, "Fahrenheit = ", Celsius, " C"	2
Q.19	Write a Python program to print multiplication table from 2 to 10.	2
SECTION-B		
Q.22	Whether Series is a one-dimensional labeled array capable of holding any data type.	1
Q.23	Write the output for following python code - Def calc () : Return [lambda x : i * x for i in range(4)] Print [m(2) for m in calc()]	3
Q.24	Write the code to sort an array in NumPy by the (n-1)th column?	2
Q.25	Write two features of a dictionary.	2
Q.26	What are the three types of import statement in Python? Explain.	3
Q.27	Define the following : Series and Data frame.	2
Q.28	Write the program to convert a panda module series to python list and its types.	2
Q.29	What will be the output of the below code: def foo (i= []): i.append (1) return i >>> foo () >>> foo ()	2
SECTION C		

Q.30	What are the common MySQL functions?	1																																										
Q.31	What is the difference between primary key and candidate key?	2																																										
Q.32	What do DDL, DML, and DCL stand for?	2																																										
Q.33	<p>Create a table for following structure -</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Type</th> <th>Null</th> <th>Key</th> <th>Default</th> <th>Extra</th> </tr> </thead> <tbody> <tr> <td> name</td> <td> varchar(20)</td> <td> YES</td> <td> </td> <td> NULL</td> <td> </td> </tr> <tr> <td> owner</td> <td> varchar(20)</td> <td> YES</td> <td> </td> <td> NULL</td> <td> </td> </tr> <tr> <td> species</td> <td> varchar(20)</td> <td> YES</td> <td> </td> <td> NULL</td> <td> </td> </tr> <tr> <td> sex</td> <td> char(1)</td> <td> YES</td> <td> </td> <td> NULL</td> <td> </td> </tr> <tr> <td> birth</td> <td> date</td> <td> YES</td> <td> </td> <td> NULL</td> <td> </td> </tr> <tr> <td> death</td> <td> date</td> <td> YES</td> <td> </td> <td> NULL</td> <td> </td> </tr> </tbody> </table>	Field	Type	Null	Key	Default	Extra	name	varchar(20)	YES		NULL		owner	varchar(20)	YES		NULL		species	varchar(20)	YES		NULL		sex	char(1)	YES		NULL		birth	date	YES		NULL		death	date	YES		NULL		2
Field	Type	Null	Key	Default	Extra																																							
name	varchar(20)	YES		NULL																																								
owner	varchar(20)	YES		NULL																																								
species	varchar(20)	YES		NULL																																								
sex	char(1)	YES		NULL																																								
birth	date	YES		NULL																																								
death	date	YES		NULL																																								
Q.34	Difference between update and alter command	2																																										
Q.35	Define projection in terms of mysql .	1																																										
Q.36.	Write the appropriate usage of social networks.	1																																										
Q.37	Define eavesdropping and phishing	2																																										
Q.38	Difference between virus and Trojan horse	2																																										
Q.39	What is cyber bullying .	1																																										

Answer Key - Q.1	Compare the calculator and computer in your words Calculator used to perform calculation task whereas computer perform data processing task. Calculator perform specific operation with very less memory. Computer perform versatile operations.	1
Q.2	What are two main types of cache memory? First type is Primary Memory comprises of RAM or ROM or CACHE. Second type is Secondary Memory can be refer as Permanent auxiliary memory comprises magnetic or optical or card.	1
Q.3	Write the names of two input and two output devices. Input Devices – K/B, Mouse, Scanner, Biometric, Touch Screen, OCR, OMR, MICR etc. Output Devices – Printer, Speaker, Monitor, Projector, COM, Plotter	2
Q.4	What are the different parts of CPU? Explain every part in brief. C.U. – Control Unit – Provides Control signals and coordinate all IO devices. A.L.U. – Arithmetic Logical Unit - Perform mathematical and logical operations. Register – Temporary Buffer storage	2
Q.5	Which of the following are hardware and software? (i) Capacitor (ii) Internet Explorer (iii) Hard disk (iv) UNIX Hardware – Capacitor, Hard Disk. Software – Internet Explorer & Unix	1
Q.6	A- Who developed python? - Guido Van Rossum B- Python is case sensitive or not . - Yes it is case sensitive. C- Python is Open Source Software , What do you understand by open source . - Yes, Open Source Software provides source codes can be modified.	1 1 1
Q.7	What are the supported data types of python. - Int, float, double, char, string, Boolean, void, List, tuple, dictionary.	2
Q.8	A- Predict the output of – print str [2:5] if str = ‘hello word’ OUTPUT – llo B- Predict the output – print str*2 if str = ‘ Kendriya’ OUTPUT – KendriyaKendriya. (Replicated the string)	2 1
Q.9	Write a Python program to display the first and last colors from the following list.	2
Q.10	What is the purpose of ** and * .	2
Q.11	What is the purpose of pass statement.	1
Q.12	What is the difference between lists and tuples? Give an example for their usage.	2
Q.13	Explain the purpose of loop structures in a programming language. Describe the syntax and semantics of one loop structure provided by Python.	3
Q.14	What is String? How do you create a string in Python?	2
Q.15	Area of triangle is given by the formula:- $\sqrt{s(s-a)(s-b)(s-c)}$ where a, b and c are the sides of the triangle and $s=(a+b+c)/2$. Write a program in Python to compute the area of the triangle.	3

Q.16	Write a program to check whether entered string is palindrome or not.	3
Q.17	Write a line of code to execute infinite loop in python.	1
Q.18	Write the python program to convert temperature from Fahrenheit to Celsius.	2
Q.19	Write a Python program to print multiplication table from 2 to 10.	2
SECTION-B		
Q.22	Whether Series is a one-dimensional labeled array capable of holding any data type.	1
Q.23	Write the output for following python code - Def calc () : Return [lambda x : i * x for i in range(4)] Print [m(2) for m in calc()]	3
Q.24	Write the code to sort an array in NumPy by the (n-1)th column?	2
Q.25	Write two features of a dictionary.	2
Q.26	What are the three types of import statement in Python? Explain.	3
Q.27	Define the following : Series and Data frame.	2
Q.28	Write the program to convert a panda module series to python list and its types.	2
Q.29	What will be the output of the below code: def foo (i= []): i.append (1) return i >>> foo () >>> foo ()	2
SECTION C		
Q.30	What are the common MySQL functions?	1
Q.31	What is the difference between primary key and candidate key?	2
Q.32	What do DDL, DML, and DCL stand for?	2

Q.33	<p>Create a table for following structure -</p> <pre> Field Type Null Key Default Extra +-----+-----+-----+-----+-----+-----+ name varchar(20) YES NULL owner varchar(20) YES NULL species varchar(20) YES NULL sex char(1) YES NULL birth date YES NULL death date YES NULL </pre>	2
Q.34	Difference between update and alter command	2
Q.35	Define projection in terms of mysql .	1
Q.36.	Write the appropriate usage of social networks.	1
Q.37	Define eavesdropping and phishing	2
Q.38	Difference between virus and Trojan horse	2
Q.39	What is cyber bullying .	1