

# DAYANANDA SAGAR COLLEGE OF ENGINEERING

(An Autonomous Institute Affiliated to VTU, Belagavi)  
Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru-560078

## UG Semester End Examination

## MODEL QUESTION PAPER

Course:		PROGRAMMING IN PYTHON				Maximum marks: 100	
Course Code:		18EC5DEBPP				Duration: 3 hours	
Semester:		5					
Note:							
Q. No.							Marks
1	a)	In Python, print () by default adds which of the following as an end line argument?					1
		i) \t	ii) \n	iii) \s	iv) \r		
	b)	With what extension are the python files saved?					1
		i) .p	ii) .python	iii) .pyn	iv) .py		
	c)	What will be the value of x in the following Python expression? x>>2 = 2					1
		i) 8	ii) 4	iii) 2	iv) 1		
	d)	The command that is used to install a third-party module in Python is					1
		i) pip	ii) pipe	iii) install_module	iv) pypy		
	e)	for i in range(6): print(i)					1
		i) Syntax error	ii) 0 to 5	iii) 0 to 6	iv) 6		
	f)	The output of the code "apple is a fruit"[6:10] is					1
		i) Apple	ii) is a	iii) Fruit	iv) None		
	g)	What is the output of the following code? stuff = {"book":"Java", "price":45} stuff.get("book")					1
		i) 45	ii) True	iii) Java	iv) price		
	h)	Which of the following statement is false about the dictionary?					1
		i) The values of a dictionary can be accessed using keys.	ii) The keys of a dictionary can be accessed using values.	iii) Dictionaries are not ordered.	iv) Dictionaries are mutable.		
	i)	Assume d = {"Guido":"Python", "Dennis":"C"}. To obtain the number of entries in dictionary the statement used is					1
		i) d.size()	ii) len(d)	iii) size(d)	iv) d.len()		
	j)	Which of the following statements create a dictionary?					1
		i) dic = { }	ii) dic = {"charles":40, "peterson":45}	iii) dic = {40: "charles", 45: "peterson"}	iv) All of the above		

	k)	The code snippet to read two characters from a file object infile is				1
		i) <code>infile.read(2)</code>	ii) <code>infile.read()</code>	iii) <code>infile.readline()</code>	iv) <code>infile.readlines()</code>	
	l)	Which of the following is not a valid mode to open a file				1
		i) <code>ab</code>	ii) <code>r+</code>	iii) <code>w+</code>	iv) <code>rw</code>	
	m)	The module that supports regular expressions is				1
		i) <code>re</code>	ii) <code>regex</code>	iii) <code>pyregex</code>	iv) <code>strings</code>	
	n)	The distinctly identifiable entity in the real world is called as _____				1
		i) An object	ii) A class	iii) Data attribute	iv) Method attribute	
	o)	Which of the following are the fundamental features of OOP?				1
		i) Inheritance	ii) Encapsulation	iii) Polymorphism	iv) All of the above	
	p)	The operator overloaded by <code>__invert__()</code> method is				1
		i) <code>!</code>	ii) <code>~</code>	iii) <code>^</code>	iv) <code>-</code>	
	q)	Which of the following can be data in panda?				1
		i) Dictionary	ii) An ndarray	iii) A scalar value	iv) All of these	
	r)	The declarative statistical visualization library available in Python is				1
		i) Altair	ii) Matplotlib	iii) Seaborn	iv) Bokeh	
	s)	Which of the following is the standard data missing marker used in pandas?				1
		i) NaN	ii) Null	iii) None	iv) Both i and ii	
	t)	Input Data in Altair is primarily based on				1
		i) Pandas DataFrame	ii) Strings	iii) Lists	iv) Dictionaries	
2	a)	Write a python program to display the Fibonacci sequence between the given intervals.				06
	b)	Illustrate with an example how Arithmetic Operators, Assignment Operators, Comparison Operators, Logical Operators and Bitwise Operators are used in python				10
3	a)	Write Python Program that Accepts a Sentence and Calculate the Number of Words, Digits, Uppercase Letters, Lowercase Letters, Number of Vowels, Number of Consonants and Blanks.				08
	b)	Discuss the relation between tuples and lists, tuples and dictionaries in detail.				08
4	a)	Write a Python Program to Check the Validity of a Password Given by User. The Password Should Satisfy the Following Criteria: <ul style="list-style-type: none"> <li>Contain at least 1 letter between a and z</li> <li>Contain at least 1 number between 0 and 9</li> <li>Contain at least 1 letter between A and Z</li> <li>Contain at least 1 character from \$, #, @</li> <li>Minimum length of password: 6</li> </ul> Maximum length of password: 12				10

	b)	Explain the different methods available for manipulating the CSV files.	06																					
5	a)	Write Python Program to Simulate a Bank Account with Support for deposit Money, withdraw Money and show Balance Operations.	10																					
	b)	Program to Illustrate the Creation of Multiple Objects for a Class	06																					
OR																								
6	a)	Define a Class Called Cart that Contains Data Attributes Apples and Oranges. Write Methods that Return Appropriate Messages If the Number of Apples is Greater than 5 or When the Number of Oranges are Greater than 10.	08																					
	b)	Write Python Program to Calculate Area and Perimeter of different Shapes using Polymorphism.	08																					
7	a)	Discuss the importance of Lambda, Iterators, Generators, List Comprehensions with examples.	08																					
	b)	Write Python Program to Read ‘Company_Annual_Net_Income.csv’ File. Sample Contents of ‘Company_Annual_Net_Income.csv’ File is Given Below. Plot Line Chart to Display the Annual Net Income of These Companies <table><tr><td>Year</td><td>Company</td><td>Profit</td></tr><tr><td>2010</td><td>Microsoft</td><td>18.76</td></tr><tr><td>2011</td><td>Microsoft</td><td>23.15</td></tr><tr><td>2010</td><td>Alphabet</td><td>8.372</td></tr><tr><td>2011</td><td>Alphabet</td><td>9.706</td></tr><tr><td>2010</td><td>Amazon</td><td>1.152</td></tr><tr><td>2011</td><td>Amazon</td><td>0.631</td></tr></table>	Year	Company	Profit	2010	Microsoft	18.76	2011	Microsoft	23.15	2010	Alphabet	8.372	2011	Alphabet	9.706	2010	Amazon	1.152	2011	Amazon	0.631	08
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8	a)	Illustrate the concepts of Integer Indexing, Array Indexing, Boolean Array Indexing, Slicing and Iterating in Arrays with examples.	08																					
	b)	Write Python Program to Read ‘Endangered_Species.csv’ File. Sample Contents of ‘Endangered_Species.csv’ File Is Given Below. Plot Grouped Bar Chart to Display the Population Growth of These Endangered Species. <table><tr><td>Species</td><td>Population</td><td>Year</td></tr><tr><td>Bengal Tiger</td><td>1201</td><td>2000</td></tr><tr><td>Bengal Tiger</td><td>1411</td><td>2005</td></tr><tr><td>Polar Bear</td><td>8832</td><td>2000</td></tr><tr><td>Polar Bear</td><td>14753</td><td>2005</td></tr><tr><td>African Lion</td><td>21690</td><td>2000</td></tr><tr><td>African Lion</td><td>28431</td><td>2005</td></tr></table>	Species	Population	Year	Bengal Tiger	1201	2000	Bengal Tiger	1411	2005	Polar Bear	8832	2000	Polar Bear	14753	2005	African Lion	21690	2000	African Lion	28431	2005	08
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