

MARKING SCHEME - SAMPLE PAPER – 3 SUBJECT: INFORMATICS PRACTICES

SuperNova-LearnPython, a YouTube channel dedicated to helping students to learn Python and computer science concepts.

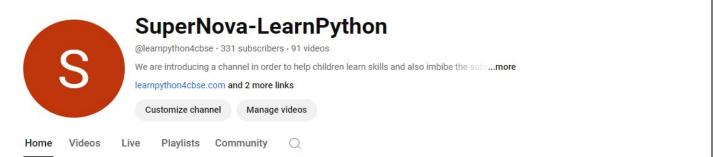
The channel covers various topics related to computer science, including **Python programming, data file handling, computer networking**, **SQL** and many more.

If you're looking for video descriptions, notes, assignments, and previous years' question papers related to Python and computer science for class 11 and 12, I recommend checking out the **SuperNova-LearnPython** channel on YouTube.

You can find the channel here¹.

Happy learning! .

Please like, Subscribe and share the Channel



For You



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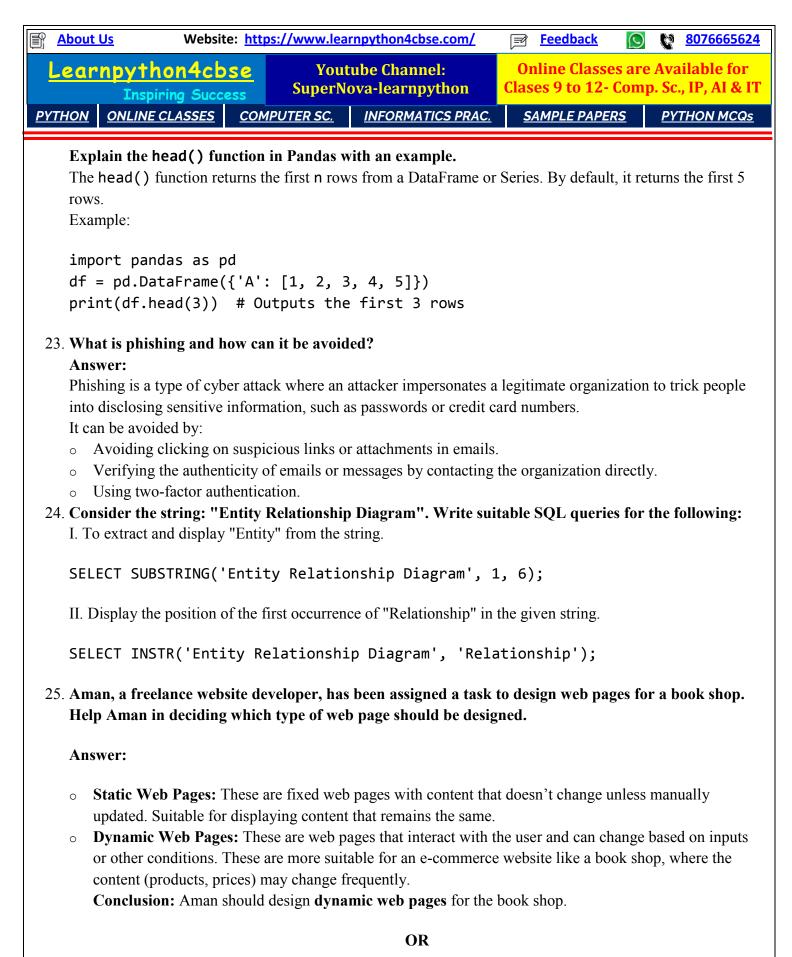
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MARKING SCHEME - SAMPLE PAPER – 3					
Code: Learnpython4cbse-3/5(25CBSE03)					
INFORMATICS PRACTICES 12TH (CODE 065)					
General Instructions:					
Time: 3 Hrs. Max. Marks: 70					
1. Please check this question paper contains 37 questions.					
2. All questions are compulsory. However, internal choices have been provided in some questions.					
Attempt only one of the choices in such questions.					
3. The paper is divided into 5 Sections- A, B, C, D and E.					
4. Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.					
5. Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.					
6. Section C consists of 4 questions (29 to 32). Each question carries 3 Marks.					
7. Section D consists of 2 case study type questions (33 to 34). Each question carries 4 Marks.					
8. Section E consists of 3 questions (35 to 37). Each question carries 5 Marks.					
9. All programming questions are to be answered using Python Language only.					
10. In case of MCO, text of the correct answer should also be written.					
SECTION A [21x1=21]					
1. State whether the following statement is True or False:					
The loc function in pandas is used to access rows by their integer position. Answer: False.					
The loc function in pandas is used to access rows by label (index name), not by integer position. To access rows by integer position, iloc is used.					
 Which SQL command clause helps to arrange records in ascending or descending order? Answer: (b) Order by 					
3. This topology provides easier detection of errors: Answer: (d) Mesh					
In a mesh topology, each device is connected to every other device, providing more redundancy and easier error detection.					
4. Which of the following function returns an integer that indicates the position of the first occurrence of the sub-string within the string?					
Answer: (a) INSTR()					

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5	Which of the fo	llowingigland	the honofit(x) of a Wasta managa	mont?				
5.	Answer: (d) All	-	the benefit(s) of e-Waste manage	ment:				
			e environmen	t, creates jobs, and allo	ws for the recover	v of precious metals.			
6.	e				•	ie. In case the column			
	does not exist, v	0		-					
	Answer: (a) Ke								
	If the column na	ame does not e	xist, pandas r	aises a KeyError.					
7.	What is the purpose of the subplot() function in Matplotlib?								
	Answer: (a) Cre	eate multiple p	lots in one fig	gure					
8.	State whether t	-							
		FE statement c	an be used to	modify existing record	s in a table.				
	Answer: True								
9.			to read data	from a CSV file onto	a Pandas datafra	me?			
	Answer: (c) rea								
10). The Indian IT :		ed in the year	•					
1	Answer: (a) 200								
1	L. Fill in the blan		maria a tabla :	from the detabase is					
	Answer: (c) DR			from the database is					
1′			nedium is mo	st appropriate to car	ry data in a comp	uter network that is			
14	exposed to elect			st appropriate to carr	y uata in a comp	uter network that is			
	Answer: (b) Op		chees.						
	Optical fiber is i		ctrical interfer	ence.					
13	3. Function to dis								
	Answer: (b) hea								
14	4. What is a comm	non health co	ncern associa	ted with prolonged u	se of digital devic	es such as			
	smartphones an	nd computers	?						
	Answer: (c) Eye	e strain and vis	sion problems						
1:			rt the series v	values using values?					
	Answer: (c) sor	-							
10	b. Match the follo	wing SQL fu	nctions/claus	es with their descripti	ons:				
	SQL Function		Description	n					
	P. MAX() 2	2. Returns the	maximum val	ue in a column.					
	Q. AVG() 4	4. Returns the	average value	in a column.					
	- 0		-	string in a string.					
	`	-		from the result set.					
л	V. A MATA IN 1711 AN	NT				Daga 2 - £12			
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Answer: (a) P-2, Q-4, R-3, S-1					
17. Fill in the blank:					
The method is used to concatenate two DataFrames along a specific axis.					
Answer: (c) concat()					
18. When using the plt.subplots() function, which parameter allows you to specify the size of the					
figure in inches?					
Answer: (a) figsize					
19. Identify the device which connects dissimilar networks?					
Answer: (d) Both (a) and (b)					
A router and gateway both can connect dissimilar networks.					
20. Assertion (A) and Reason (R) Type questions:					
Assertion (A): Two series can be added in pandas, if the indexes are the same.					
Reason (R): Indexes in pandas series can be changed by the index property.					
Answer: (a) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of					
Assertion (A).					
21. Assertion (A) and Reason (R) Type questions:					
Assertion (A): The GRANT command in SQL is used to provide users with privileges to perform actions on the database.					
Reason (R): The 'GRANT' command is a Data Manipulation Language (DML) Command.					
Answer: (c) Assertion (A) is True, but Reason (R) is False.					
GRANT is a Data Definition Language (DDL) command, not DML.					
SECTION B [7x2=14]					
22. What is the purpose of the tail() function in Pandas? Provide an example.					
Answer: The total $f(x) = f(x) + f(x$					
The tail() function returns the last n rows from a DataFrame or Series. By default, it returns the last 5					
rows.					
Example:					
import pandas as pd					
df = pd.DataFrame({'A': [1, 2, 3, 4, 5]})					
print(df.tail(3)) # Outputs the last 3 rows					
OR					

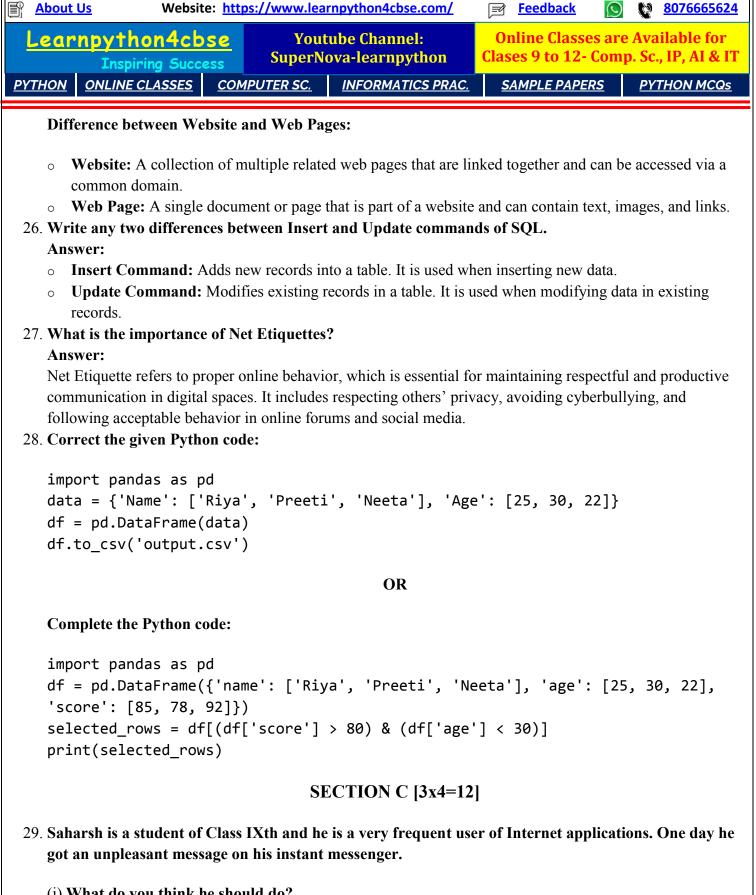
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(i) What do you think he should do?

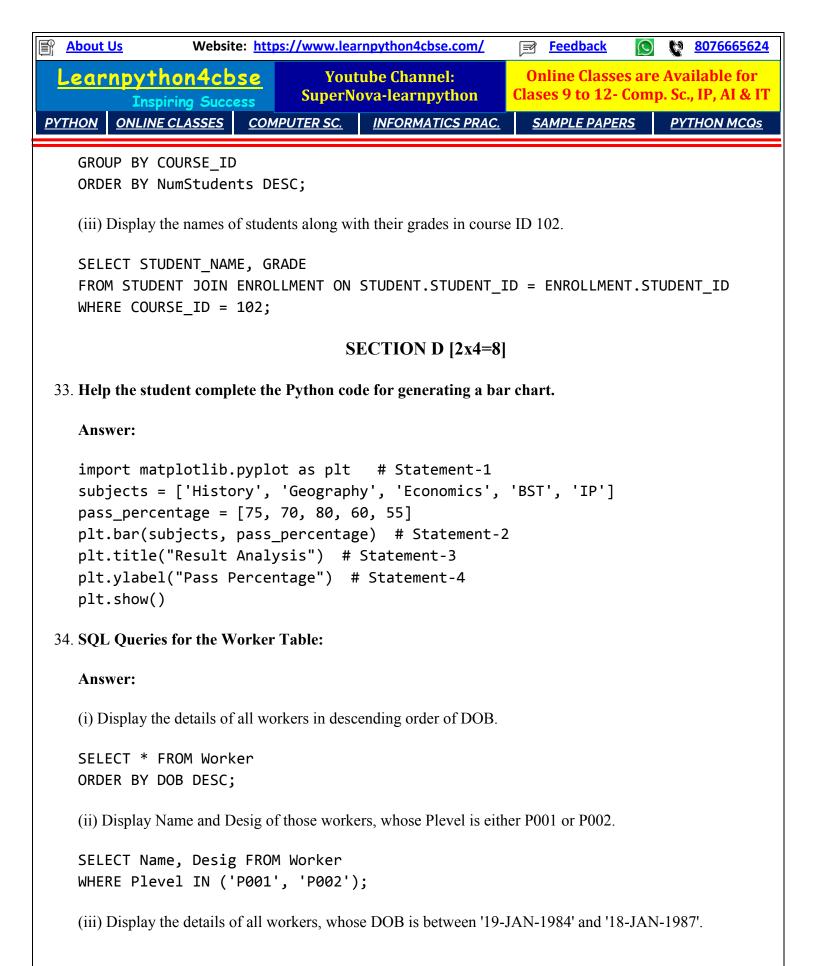
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		• •	nessage to the relevant ok the sender if possible		strator, parent, etc.),
(ii) Exhibit	ing proper manne	ers and etiqu	ettes while being onlin	e is called as?	
\circ This is c	called Netiquette.				
(iii) Name t	he law to handle	such issues?			
• The Infe in India.		logy Act, 200	0 addresses issues relat	ed to cybercrime an	nd online harassment
			s and she is aware of s iting proper statement	-	ython but is unable
Answer:					
data = {' 'Chem': [30, 70, 50, 6 DataFrame(data	5]}	vil', 'Manu', 'Ri	[a'], 'Phy': [7	70, 60, 76, 89],
			OR		
data = {'	andas as pd Bridge': ['Dh etu', 'Munger	-	Bridge', 'Dibang ge'],	g River Bridge	', 'Mahatma
	Series(data)	am', 'Arur	achal Pradesh', '	Bihar', 'Uttan	r Pradesh']}
31. SQL staten	ient to create a ta	ble named C	USTOMER:		
Custo First	E TABLE CUSTO omerID NUMERIC Name VARCHAR(Jame VARCHAR(3 DATE,	PRIMARY K 30),	ΈΥ,		
	VARCHAR(50)				
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);						
SQL Query to insert data into the CUSTOMER table:						
INSERT INTO CUSTOMER (CustomerID, FirstName, LastName, DOA, Email) VALUES (5678, 'John', 'Doe', '2022-01-20', 'john.doe@example.com');						
32. Consider the following tables and write SQL queries for the following:						
(i) Display the total order amount per country.						
SELECT CustomerCountry, SUM(OrderAmount) AS TotalOrderAmount FROM CUSTOMER JOIN ORDERS ON CUSTOMER.CustomerID = ORDERS.CustomerID GROUP BY CustomerCountry;						
(ii) List all customers who have placed orders in descending order of their total order amount.						
SELECT CustomerName, SUM(OrderAmount) AS TotalOrderAmount FROM CUSTOMER JOIN ORDERS ON CUSTOMER.CustomerID = ORDERS.CustomerID GROUP BY CustomerName ORDER BY TotalOrderAmount DESC;						
(iii) Display customer names along with the order date and order amount for each order.						
SELECT CustomerName, OrderDate, OrderAmount FROM CUSTOMER JOIN ORDERS ON CUSTOMER.CustomerID = ORDERS.CustomerID;						
OR						
(i) Display the average age of students enrolled in course ID 101.						
SELECT AVG(AGE) AS AvgAge FROM STUDENT JOIN ENROLLMENT ON STUDENT.STUDENT_ID = ENROLLMENT.STUDENT_ID WHERE COURSE_ID = 101;						
(ii) List all courses in the decreasing order of the number of students enrolled.						
SELECT COURSE_ID, COUNT(STUDENT_ID) AS NumStudents FROM ENROLLMENT						
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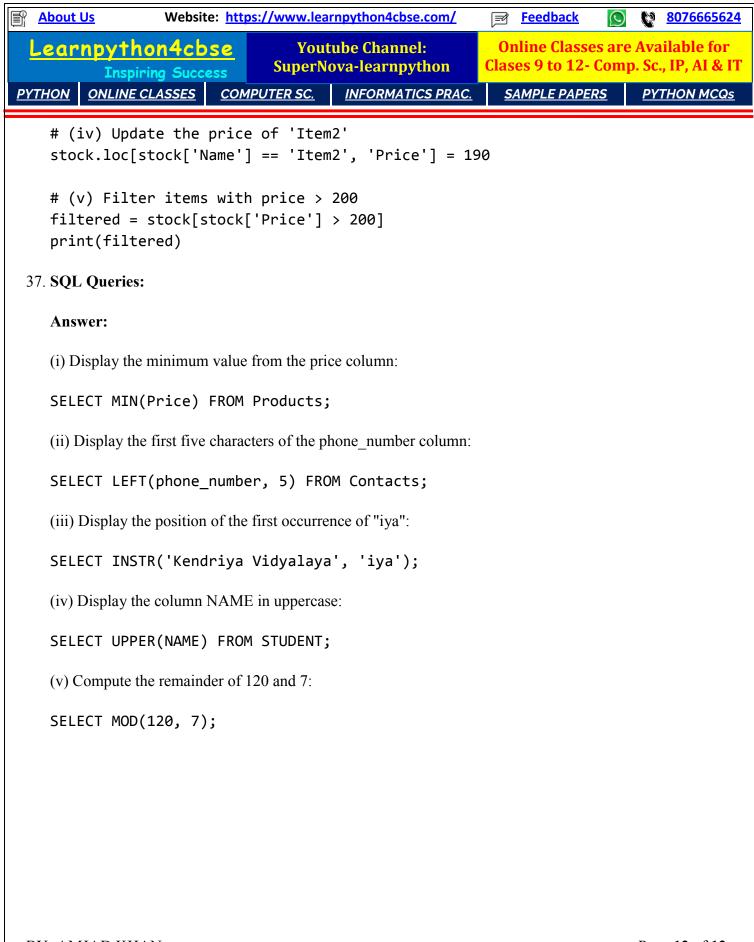
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(i) The most suitable wing to install the server: The Admin wing would be most suitable as it is centrally located, ensuring better access to all wings and higher security.							
(ii) Cable Layout and Topology: The school should use a Star Topology, where all the wings are connected to a central server in the Admin wing.							
(iii) Device/Software for Data Security: A Firewall and Antivirus Software should be placed at the central server and individual computers.							
(iv) Device to Connect Computers in Each Wing:							
• Switches should be placed in each wing to connect computers.							
(b) Placement of a Repeater: A repeater should be placed in the DORMITORY to ensure a stable signal in the farthest wing.							
(v) Device and Protocol for Wireless Internet Access: A Wi-Fi Router using 802.11ac protocol should be installed in the Admin wing to provide wireless internet to the campus.							
36. DataFrame Operations:							
import pandas as pd							
<pre>stock = pd.DataFrame({</pre>							
'Name': ['Item1', 'Item2', 'Item3', 'Item4'], 'Price': [150, 180, 225, 500]})							
# (i) Add a column 'Special_Price'							
stock['Special_Price'] = [135, 150, 200, 440]							
# (ii) Add a new book							
<pre>stock = stock.append({'Name': 'The Secret', 'Price': 800, 'Special_Price': 800}, ignore_index=True)</pre>							
# (iii) Remove the 'Special_Price' column stock.drop(columns=['Special_Price'], inplace=True)							



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