



OSDAV Public School, Kaithal

May Unit Test (2025-26)

Class :XI

Subject : Computer Science

SET-A

Time: 1.5 Hrs .

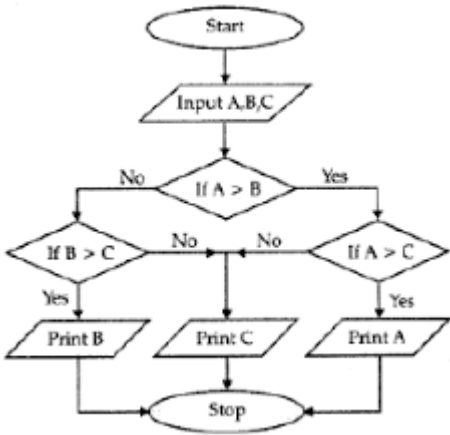
M.M. : 35

General Instructions:-

I. All questions are compulsory.

Q.N.	Questions	Marks
1	Identify the utility software from the software mentioned below : a. Antivirus b. Disk defragmenter c. Ubuntu d. Spreadsheet	1
2	Which of the following operator give answer as True when only both inputs are True (a) NOT (b) AND (c) OR (d) XOR	1
3	Write the full form of the following a)ISCII=>Indian Script code for in formation interchange b) DRAM=>Dynamic Random Access Memory	1
4	find valid/invalid identifier from list valid: man1, For, ABC_1 Invalid:-while, 3Abc	1
5	How you write following expressions in Python $A^3+B^3+3AB(a+B) \Rightarrow a**3+b**3+3*a*b*(a+b)$	1
6	Identify the statement with an error in the code given below:: str= "Atal Innovation Mission" #statement 1 x= "3" #statement 2 print(str*x) #statement 3 print(str+3) #statement 4 a) statement 1 b) statement 2 c) statement 3 d) statement 4	1
7	Differentiate between syntax error and logical error. Give example for each. Syntax errors Syntax errors are errors that occur when the program does not follow the rules or grammar of the programming language <pre>x = int(input('Enter a number: ')) if x%2 == 0 print('You have entered an even number.') else: print('You have entered an odd number.')</pre> Logical errors –logical errors cause the program to behave incorrectly, but they do not usually crash the program. Unlike a program with syntax errors, a program with logic errors can be run, but it does not operate as intended. Consider the following example of an logical error: <pre>x = float(input('Enter a number: ')) y = float(input('Enter a number: ')) z = x+y/2 print('The average of the two numbers you have entered is:',z)</pre>	2
8	Solve the expressions a) $\text{print}(2**2**3) \Rightarrow 256$ b) $\text{print}(3**2*2) \Rightarrow 18$	2
9	Define explicit casting with the help of suitable example	2

	Casting done by human externally is called explicit casting as A=int(input("enter a "))																																																																									
10	State and prove distributive law using truth table <table><tr><th>X</th><th>Y</th><th>Z</th><th>Y + Z</th><th>XY</th><th>XZ</th><th>X(Y + Z)</th><th>XY + XZ</th></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td></tr><tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table>	X	Y	Z	Y + Z	XY	XZ	X(Y + Z)	XY + XZ	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	2
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13	What are comments? How many types of comments in Python explain with the help of suitable example. In Python, comments are lines of code that are ignored by the interpreter when the program runs, serving as notes for developers to understand the code's logic. There are two main types of comments: single-line comments starts with # and multi-line comments:-Close in """ """	2																																																																								
14	Write a python program to find roots of quadratic equation print("Equation: ax^2 + bx + c ") a=int(input("Enter a: ")) b=int(input("Enter b: ")) c=int(input("Enter c: ")) d=b**2-4*a*c d1=d**0.5 if(d<0): print("The roots are imaginary. ") else: r1=(-b+d1)/2*a r2=(-b-d1)/2*a print("The first root: ",round(r1,2)) print("The second root: ",round(r2,2))	3																																																																								
15	Write a python program to whether number entered is palindrome or not n=int(input("Enter number:")) temp=n rev=0 while(n>0): dig=n%10 rev=rev*10+dig n=n//10 if(temp==rev): print("The number is a palindrome!") else: print("The number isn't a palindrome!")	3																																																																								

16	<p>Write a program to find the Grade and percentage of a child using if statement</p> <pre> sub1 = int(input("Enter marks of the first subject: ")) sub2 = int(input("Enter marks of the second subject: ")) sub3 = int(input("Enter marks of the third subject: ")) sub4 = int(input("Enter marks of the fourth subject: ")) sub5 = int(input("Enter marks of the fifth subject: ")) avg = (sub1 + sub2 + sub3 + sub4 + sub5) / 5 if avg >= 90: print("Grade: A") elif avg >= 80 and avg < 90: print("Grade: B") elif avg >= 70 and avg < 80: print("Grade: C") elif avg >= 60 and avg < 70: print("Grade: D") else: print("Grade: F") </pre>	3
17	<p>Convert.</p> <p>(129) decimal to octal,hexadecimal and binary $(201)_8, (81)_{16}, (10000001)_2$</p> <p>(214) octal to hexadecimal equivalent $\Rightarrow (8C)_{16}$</p>	3
18	<p>Draw a flowchart to find largest amongst three numbers</p>  <pre> graph TD Start([Start]) --> Input[/Input A,B,C/] Input --> A_B{If A > B} A_B -- Yes --> A_C{If A > C} A_B -- No --> B_C{If B > C} A_C -- Yes --> Print_A[/Print A/] A_C -- No --> Print_C[/Print C/] B_C -- Yes --> Print_B[/Print B/] B_C -- No --> Print_C Print_A --> Stop([Stop]) Print_B --> Stop Print_C --> Stop </pre>	3



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SET-B

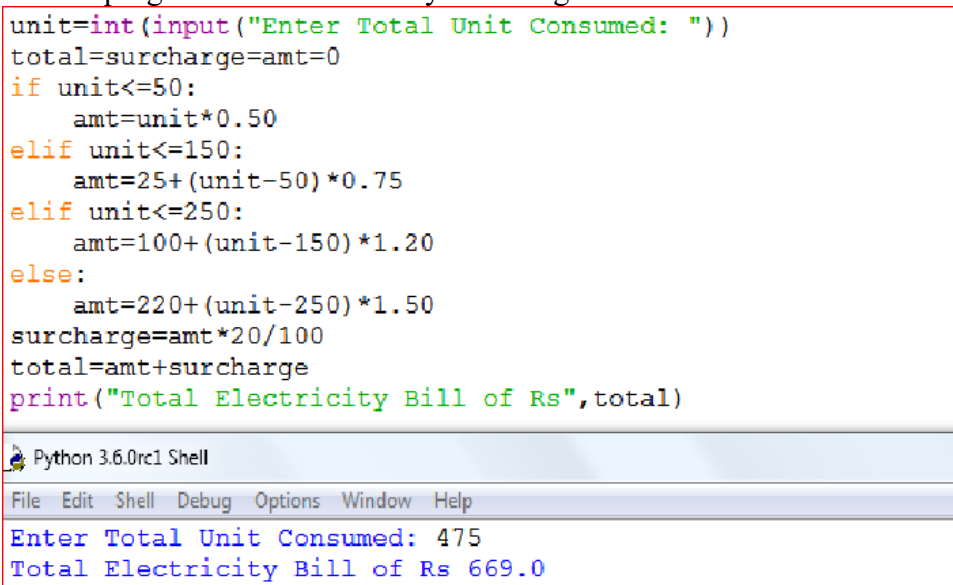
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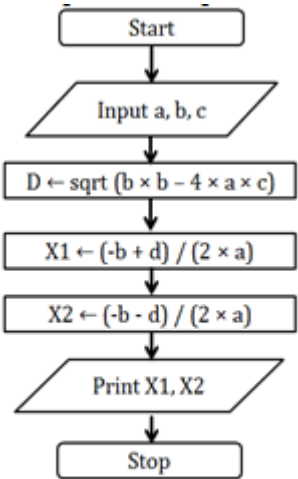
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General Instructions:-

I. All questions are compulsory.

Q.N.	Questions	Marks
1	Identify the system software from the software mentioned below : a. Antivirus b. Disk defragmenter c. Ubuntu d. windows	1
2	Which of the following operator terms as unary operator (a) NOT (b) AND (c) OR (d) XOR	1
3	Write the full form of the following a) ASCII => American Standard code for information interchange b) EEPROM => Electrically Erasable Programmable Read Only Memory	1
4	find valid/invalid identifier from list valid: man1, While, ABC_1 Invalid: -for, 1man, ABC*1	1
5	How you write following expressions in Python $A^2+B^2+2AB \Rightarrow a**2+b**2+2*a*b$	1
6	Identify the statement with an error in the code given below:: str= "Atal Innovation Mission" #statement 1 x= 3 #statement 2 print(str*x) #statement 3 print(str+3) #statement 4 a) statement 1 b) statement 2 c) statement 3 d) statement 4	1
7	Differentiate between syntax error and semantic error. Give example for each. Syntax errors Syntax errors are errors that occur when the program does not follow the rules or grammar of the programming language x = int(input('Enter a number: ')) if x%2 == 0 print('You have entered an even number.') else: print('You have entered an odd number.') A semantic error, In the context of computer programming and linguistics, refers to an error that occurs due to a misunderstanding or incorrect interpretation of the meaning or logic of code, language, or a system	2
8	Solve the expressions a) print(3**2**3) => 6561 b) print(4**2*2)=>32	2
9	Define type casting and its type with the help of suitable example Type casting, in programming, is the conversion of a variable from one data type to another. It's essentially changing the way a value is interpreted by the computer. There are two main types of type casting: implicit and explicit explicit casting as A=int(input("enter a ")) Implicit casting A=5 B=3.5 C=A+B Answer will float implicitly casted	2
10	State and prove de morgan's law using truth table	2

	<table><tr><th colspan="7">De-Morgan's Second Theorem Verification</th></tr><tr><th>A</th><th>B</th><th>A + B</th><th>$\overline{A + B}$</th><th>\overline{A}</th><th>\overline{B}</th><th>$\overline{A} \cdot \overline{B}$</th></tr><tr><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table>	De-Morgan's Second Theorem Verification							A	B	A + B	$\overline{A + B}$	\overline{A}	\overline{B}	$\overline{A} \cdot \overline{B}$	0	0	0	1	1	1	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0	1	1	1	0	0	0	0	
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13	a)What will the following expression be evaluated to in Python? print (4+3*5/3-5%2) =>8.0 b) Consider the given expression: 5<10 and 12>7 or not 7>4=>True	2																																										
14	Write a python program to find reverse of a number and find whether number entered is palindrome or not <pre>n=int(input("Enter number:")) temp=n rev=0 while(n>0): dig=n%10 rev=rev*10+dig n=n//10 if(temp==rev): print("The number is a palindrome!") else: print("The number isn't a palindrome!")</pre>	3																																										
15	Write a program to find electricity bill using if statement <pre>unit=int(input("Enter Total Unit Consumed: ")) total=surcharge=amt=0 if unit<=50: amt=unit*0.50 elif unit<=150: amt=25+(unit-50)*0.75 elif unit<=250: amt=100+(unit-150)*1.20 else: amt=220+(unit-250)*1.50 surcharge=amt*20/100 total=amt+surcharge print("Total Electricity Bill of Rs",total)</pre> 	3																																										
16	Convert. (192) decimal to octal,hexadecimal and binary=>(300) ₈ , (C0) ₁₆ , (1100000) ₂ (241) octal to hexadecimal equivalent=>(A1) ₁₆	3																																										

17	<p>Write a python program to find area of triangle using hero's formula</p> <pre> 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",area) </pre>	3
18	<p>Draw a flowchart to find the roots of quadratic equation</p>  <pre> graph TD Start([Start]) --> Input[/Input a, b, c/] Input --> D["D ← sqrt (b × b - 4 × a × c)"] D --> X1["X1 ← (-b + d) / (2 × a)"] X1 --> X2["X2 ← (-b - d) / (2 × a)"] X2 --> Print[/Print X1, X2/] Print --> Stop([Stop]) </pre> <p>Figure 3</p>	3