

<b>SET</b>	<b>A</b>
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**INDIAN SCHOOL MUSCAT  
HALF YEARLY EXAMINATION 2022  
COMPUTER SCIENCE(083)**

CLASS: XI

Max.Marks: 70

MARKING SCHEME			
SET	QN.NO	VALUE POINTS SECTION-A	MARKS SPLIT UP
A	1	(a) "Hello"	1
A	2	(a) Script	1
A	3	(b) 7	1
A	4	(c) .py	1
A	5	a) dynamic typing	1
A	6	(d) All of these	1
A	7	(a) Logical	1
A	8	(c) %	1
A	9	b) range( )	1
A	10	(d) Iterative	1
A	11	(a) -1	1
A	12	(b) entry control loops	1
A	13	(c) for i in range (0, 50,1) :	1
A	14	(b) RAM	1
A	15	(c) Control unit	1
A	16	(a) Operating System	1
A	17	(a) Both A and R are true and R is the correct explanation for A	1

A	18	(c) A is True but R is False	1
		<b>SECTION-B</b>	
A	19	<p>Corrected Program:</p> <pre>w = 90 while (w&gt;60):     print(w)     w = w - 50</pre> <p>Any 4 Errors. ½ Marks each</p>	4 x ½ =2
A	20	<p>Easy to use Object Oriented language, Expressive language, Interpreted Language, Its completeness, Cross-platform Language, Free and Open source, Variety of Usage / Applications</p> <p>Any 4 Advantages. ½ Marks each</p> <p>OR</p> <p>Function is a block of code that has a name and can be reused by specifying its name in the program where needed. It is created with <b>def</b> keyword.</p>	2
A	21	<p>output</p> <p>a) 200 400</p> <p>b) 10 40 11</p>	1 + 1 = 2
A	22	Physical electronic components of a computer system are known as Hardware, e.g. Keyboard, CPU, Monitor, Printer etc.	1 + 1 = 2
A	23	<pre>import math a) (-b + math.sqrt( b*b - 4 * a*c))/(2*a) b) 10 - y* math.exp(5*y) + 25 * y</pre>	1 + 1 = 2
A	24	<p>Utilities are those application programs that assist the computer by performing housekeeping functions like backing up disks, or scanning/cleaning viruses or arranging information etc.</p> <p>Eg: Text editor, Backup utility , Compression utility, Disk Defragmenter, Antivirus software.</p> <p>OR</p> <p>Interpreter- It converts High Level Language program into machine language line by line simultaneously executes the converted line.</p> <p>Compiler- It converts High Level program into machine language in one go.</p>	1 + 1 = 2
A	25	<pre>R = float(input("Enter the radius of the circle")) area = 3.14*R*R print("Area=",area)</pre> <p>OR</p> <pre>L = float(input("Enter the length of the rectangle")) B = float(input("Enter the length of the rectangle")) area = L * B print("Area=",area)</pre> <p>(Input – ½ Mark, Logc-1 Mark, Output – ½ Mark)</p>	2

		SECTION- C	
A	26	<p><b>Random Access Memory (RAM)</b> It is the working memory, right from the booting of computer till the computer is shutdown this memory is in use to store all the operation done by the computer. It is used for primary storage in computers to hold active information of data and instructions. It holds data temporarily i.e. Volatile Memory. Data is lost if Power Off</p> <p><b>Read Only Memory (ROM)</b> ROM (Read Only Memory) is used to store the instructions provided by the manufacturer, which holds the instructions to check basic hardware inter connector and to load operating system from appropriate storage device It is also known as FIRMWARE Its data is stored permanently on it so it is non-volatile device. (1 ½ + 1 ½ = 3)</p>	3
A	27	<pre>num1= int(input("Enter the first integer:")) num2= int(input("Enter the second integer:")) if num1&lt;num2:     min=num1 else:     min=num2 for i in range(1,min+1):     if (num1%i==0 and num2%i==0):         gcd= i lcm= num1*num2/gcd print("LCM=",lcm) print("GCD=",gcd)</pre> <p style="text-align: center;">OR</p> <pre>year = int(input("Enter the year in 4-digit form:")) if (year%100==0):     if(year%400==0):         print("Leap year")     else:         print("Not a leap year") elif(year%4==0):     print("Leap year") else:     print("Not a leap year")</pre> <p style="text-align: right;">(Input- ½ Mark, Logic- 2 Marks, output – ½ Mark)</p>	3
A	28	<p>World</p> <p>02</p> <p>WIC 2</p> <p>2202 puC dlroW</p> <p>World Cup 20</p> <p style="text-align: right;">6 lines of output ½ mark each</p>	3
A	29	<p>When rule of a programming language is violated syntax error occurs. Eg: Print("Welcome") – This is an error 'p' should be small letter in print() statement in python. When the statement doesn't have any meaning in the language semantic error occurs. Eg: x + y = z (we can't have an expression on the left side of</p>	1+1+1 = 3

		<p>the assignment operator).</p> <p>Logical error occurs when we get unpredicted/wrong output from the program. Eg: if you give Area = 2*3.14 *r (The formula is wrong)</p>	
A	30	<p>len(string) is used to find the length of a string.</p> <p>string.isalpha()- It returns True if all the characters in string are alphabets and there is at least one character, False otherwise.</p> <p>string.capitalize( ) – Returns a copy of the string with its first letter of sentence in capital letter. (1+1+1 =3 Marks)</p> <p style="text-align: center;">OR</p> <p>break statement in python is used to terminate the containing loop for any given condition. Program resumes from the statement immediately after the loop</p> <p>Continue statement in python is used to skip the statements below continue statement inside loop and forces the loop to continue with next value. (1.5+1.5 =3 Marks)</p>	3
		<b>SECTION- D</b>	
A	31	<p>a)</p> <pre>f,s = 0,1 for i in range(10):     print(f,end=" ")     f,s = f + s,f</pre> <p style="text-align: right;">(Logic- 1 ½ Marks, output- ½ Marks)</p> <p>b)</p> <pre>x= int(input("Enter the value for x:")) t = 4 sum=0 sign=1 for i in range(1,t+1):     fact=1     for j in range(1,i+1):         fact = fact * j     sum = sum + sign * pow(x,i)/fact     sign= sign*(-1) print("Sum=",sum)</pre> <p style="text-align: right;">(Input – ½ Marks, Logic- 2 Marks, output- ½ Marks) (Any other correct logic )</p>	2 + 3 = 5
A	32	<p>a)</p> <pre>st=input("Enter the string:") st=st.lower() L=len(st) k=L//2 j=L-1 f=0 for i in range(k):     if st[i]!=st[j]:         f=1         break     j=j-1 if f == 0:</pre>	2 + 3 = 5

		<pre> print("Palindrome") else:     print("Not Palindrome")                 (Input – ½ Marks, Logic- 1 Marks, output- ½ Marks) b) x= int(input("Enter the value for x:")) t= int(input("Enter the number of terms of the series:")) sum=0 if t==1:     sum=1 else:     for i in range(t):         sum = sum + pow(x,i) print("Sum=",sum)                 (Input – ½ Marks,Logic- 2 Marks, output- ½ Marks)                 (Any other correct logic ) </pre>	
A	33	<pre> a) for i in range(5):     for j in range(i):         print('\$',end=' ')     print()                 (Input – ½ Marks, Logic- 2 Marks, output- ½ Marks) b) num = int(input("Enter an integer:")) sum=0 for i in range(1,num):     if num%i ==0:         sum= sum + i if num == sum :     print(num, “ is a perfect number”) else:     print(num, “ is a perfect number”)                 (Logic- 1 ½ Marks, output- ½ Marks)                 OR a) for i in range(4,0,-1):     x='A'     for j in range(i):         print(x,end=' ')     y = ord(x)     x = chr(y+1)     print()                 (Input – ½ Marks, Logic- 2 Marks, output- ½ Marks) b) num = int(input("Enter an integer:")) fact=1 for i in range(1,num+1):     fact=fact*i print("Factorial of",num,"=",fact)                 (Logic- 1 ½ Marks, output- ½ Marks)                 (Any other correct logic ) </pre>	3 + 2 = 5

		SECTION- E	
A	34	(Input – ½ Marks, Correct logic- 2 ½ Marks, Correct output- 1 Marks)	4
A	35	<pre> num = int(input("Enter the number:")) sum=0 k=num while num &gt; 0:     d = num%10     sum= sum+ d*d*d     num=num//10 if sum==k:     print(k," is an Armstrong number") else:     print(k," is not an Armstrong number") </pre> <p>(Input – ½ Marks, Logic- 2 ½ Marks, output- 1 Marks) (Any other correct logic )</p>	4

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<b>SET</b>	<b>B</b>
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CLASS: XI

Max.Marks: 70

MARKING SCHEME			
SET	QN.NO	VALUE POINTS <b>SECTION-A</b>	MARKS SPLIT UP
B	1	a) dynamic typing	1
B	2	(c) .py	1
B	3	(d) All of these	1
B	4	(a) Script	1
B	5	(a) "Hello"	1
B	6	(b) 7	1
B	7	b) range( )	1
B	8	(d) Iterative	1
B	9	(a) Logical	1
B	10	(c) %	1
B	11	(c) for i in range (0, 50,1) :	1
B	12	(b) RAM	1
B	13	(a) Operating System	1
B	14	(b) entry control loops	1
B	15	(c) Control unit	1
B	16	(a) -1	1

B	17	(c) A is True but R is False	1
B	18	(a) Both A and R are true and R is the correct explanation for A	1
		<b>SECTION-B</b>	
B	19	import math a) $(-b + \text{math.sqrt}(b*b - 4 * a*c))/(2*a)$ b) $10 - y * \text{math.exp}(5*y) + 25 * y$	1 + 1 = 2
B	20	Physical electronic components of a computer system are known as Hardware, e.g. Keyboard, CPU, Monitor, Printer etc.	1 + 1 = 2
B	21	R = float(input("Enter the radius of the circle")) area = 3.14*R*R print("Area=",area)  OR L = float(input("Enter the length of the rectangle")) B = float(input("Enter the breadth of the rectangle")) area = L * B print("Area=",area)  (Input – ½ Mark, Logc-1 Mark, Output – ½ Mark)	2
B	22	Easy to use Object Oriented language, Expressive language, Interpreted Language, Its completeness, Cross-platform Language, Free and Open source, Variety of Usage / Applications  Any 4 Advantages. ½ Marks each  OR Function is a block of code that has a name and can be reused by specifying its name in the program where needed. It is created with <b>def</b> keyword.	1 + 1 = 2
B	23	Corrected program: k = 500 <u>for</u> i <u>in</u> range(1,5) : print(k, <u>end</u> = ' ') k = k – 50  4 x ½ Mark each	2
B	24	Utilities are those application programs that assist the computer by performing housekeeping functions like backing up disks, or scanning/cleaning viruses or arranging information etc. Eg: Text editor, Backup utility , Compression utility, Disk Defragmenter, Antivirus software.  OR Interpreter- It converts High Level Language program into machine language line by line simultaneously executes the converted line. Compiler- It converts High Level program into machine language in one go.	1 + 1 = 2



B	25	output a) 200 400 b) 10 40 11	1+1= 2
		<b>SECTION- C</b>	
B	26	<p>When rule of a programming language is violated syntax error occurs. Eg: Print("Welcome") – This is an error 'p' should be small letter in print() statement in python.</p> <p>When the statement doesn't have any meaning in the language semantic error occurs. Eg: x+y = z (we can't have an expression on the left side of the assignment operator).</p> <p>Logical error occurs when we get unpredicted/wrong output from the program. Eg: if you give Area = 2*3.14 *r (The formula is wrong)</p>	1+1+1 = 3
B	27	<pre>num1= int(input("Enter the first integer:")) num2= int(input("Enter the second integer:")) if num1&lt;num2:     min=num1 else:     min=num2 for i in range(1,min+1):     if (num1%i==0 and num2%i==0):         gcd= i lcm= num1*num2/gcd print("LCM=",lcm) print("GCD=",gcd)</pre> <p style="text-align: center;">OR</p> <pre>year = int(input("Enter the year in 4-digit form:")) if (year%100==0):     if(year%400==0):         print("Leap year")     else:         print("Not a leap year") elif(year%4==0):     print("Leap year") else:     print("Not a leap year")</pre> <p style="text-align: right;">(Input- ½ Mark, Logic- 2 Marks, output – ½ Mark)</p>	3
B	28	<p>string.index(substring): this function returns index position of substring. If substring is not there then it returns error 'substring not found'.</p> <p>string.isalnum() : Returns True if the characters in the string are alphanumeric(alphabets or numbers) and there is at least one character, False otherwise.</p> <p>string.title(): this function is used to convert first letter of every word in string in capital letters. (1+1+1=3)</p> <p style="text-align: center;">OR</p> <p>Loop in python provides else clause with loop also which will execute when the loop terminates normally i.e. when the test condition fails in while loop or when last value is executed in for loop but not when break</p>	3



		<pre> f=0 for i in range(k):     if st[i]!=st[j]:         f=1         break     j=j-1 if f == 0:     print("Palindrome") else:     print("Not Palindrome") </pre> <p style="text-align: right;">(Input – ½ Marks, Logic- 1 Marks, output- ½ Marks)</p> <p>b)</p> <pre> x= int(input("Enter the value for x:")) t= int(input("Enter the number of terms of the series:")) sum=0 if t==1:     sum=1 else:     for i in range(t):         sum = sum + pow(x,i) print("Sum=",sum) </pre> <p style="text-align: right;">(Input – ½ Marks, Logic- 2 Marks, output- ½ Marks) (Any other correct logic )</p>	
B	33	<p>a)</p> <pre> x='A' for i in range(1,5):     for j in range(i):         print(x,end=' ')         y=ord(x)         x=chr(y+1)     print() </pre> <p style="text-align: right;">(Input – ½ Marks, Logic- 2 Marks, output- ½ Marks)</p> <p>b)</p> <pre> num = int(input("Enter an integer:")) sum=0 for i in range(1,num+1):     if num%i == 0:         sum= sum + i print( "Sum of the factors=", sum) </pre> <p style="text-align: right;">(Logic- 1 ½ Marks, output- ½ Marks)</p> <p style="text-align: center;">OR</p> <p>a)</p> <pre> for i in range(5,1,-1):     for j in range(1,i):         print(j,end=' ')     print() </pre> <p style="text-align: right;">(Input – ½ Marks, Logic- 2 Marks, output- ½ Marks)</p> <p>b)</p>	3 + 2 = 5

		<pre> n1 = int(input("Enter first number ")) n2 = int(input("Enter second number ")) n3 = int(input("Enter third number "))  if (n1&gt;n2) and (n1&gt;n3):     large=n1 elif(n2&gt;n1) and (n2&gt;n3):     large=n2 else:     large = n3 print("Largest number is ", large) </pre> <p>(Logic- 1 ½ Marks, output- ½ Marks)</p> <p>(Any other correct logic )</p>	
		<b>SECTION- E</b>	
B	34	<pre> num = int(input("Enter the number:")) sum=0 k=num while num &gt; 0:     d = num%10     sum= sum+ d*d*d     num=num//10 if sum==k:     print(k," is an Armstrong number") else:     print(k," is not an Armstrong number") </pre> <p>(Input – ½ Marks, Logic- 2 ½ Marks, output- 1 Marks)</p> <p>(Any other correct logic )</p>	4
B	35	<pre> st=input("Enter the string:") U=L=0 for i in st:     if i.isupper():         U = U + 1     if i.islower():         L = L + 1 print("No. of upper case letters:", U) print("No. of lower case letters:", L) </pre> <p>(Input – ½ Marks, Logic- 2 ½ Marks, output- 1 Marks)</p> <p>(Any other correct logic )</p>	4

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<b>SET</b>	<b>C</b>
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CLASS: XI

Max.Marks: 70

MARKING SCHEME			
SET	QN.NO	VALUE POINTS SECTION-A	MARKS SPLIT UP
C	1	(a) -1	1
C	2	(c) Control unit	1
C	3	(b) entry control loops	1
C	4	(a) Operating System	1
C	5	(b) RAM	1
C	6	(c) for i in range (0, 50,1) :	1
C	7	(b) 7	1
C	8	(a) Logical	1
C	9	(d) Iterative	1
C	10	(c) %	1
C	11	b) range( )	1
C	12	(a) "Hello"	1
C	13	(a) Script	1
C	14	(d) All of these	1
C	15	(c) .py	1
C	16	a) dynamic typing	1
C	17	(c) A is True but R is False	1

C	18	(a) Both A and R are true and R is the correct explanation for A	1
		<b>SECTION-B</b>	
C	19	output a) 200 400 b) 10 40 11	1+1=2
C	20	<p>Utilities are those application programs that assist the computer by performing housekeeping functions like backing up disks, or scanning/cleaning viruses or arranging information etc. Eg: Text editor, Backup utility ,Compression utility, Disk Defragmenter, Antivirus software. (1+1=2)</p> <p style="text-align: center;">OR</p> <p><u>Interpreter</u>- It converts High Level Language program into machine language line by line simultaneously executes the converted line.</p> <p><u>Compiler</u>- It converts High Level program into machine language in one go. (1+1=2)</p>	2
C	21	<p>Corrected program: k = 500 <u>for i in range(1, 5):</u>     print(k, <u>end</u> = " ")     k = k -50</p> <p style="text-align: right;">4 Errors. ½ Marks each</p>	2
C	22	<p>Easy to use Object Oriented language, Expressive language, Interpreted Language, Its completeness, Cross-platform Language, Free and Open source, Variety of Usage / Applications</p> <p style="text-align: right;">Any 4 Advantages. ½ Marks each</p> <p style="text-align: center;">OR</p> <p>Function is a block of code that has a name and can be reused by specifying its name in the program where needed. It is created with <b>def</b> keyword.</p>	2
C	23	<p>R = float(input("Enter the radius of the circle")) area = 3.14*R*R print("Area=",area)</p> <p style="text-align: center;">OR</p> <p>L = float(input("Enter the length of the rectangle")) B = float(input("Enter the length of the rectangle")) area = L * B print("Area=",area)</p> <p style="text-align: right;">(Input – ½ Mark, Logc-1 Mark, Output – ½ Mark)</p>	2

C	24	An application software is the set of programs necessary to carry out operations for a specific application. Eg: Tally, business software	1 + 1 = 2
C	25	import math a) $(-b + \text{math.sqrt}(b*b - 4 * a*c))/(2*a)$ b) $10 - y * \text{math.exp}(5*y) + 25 * y$	1+1 = 2
		<b>SECTION- C</b>	
C	26	string.index(substring): this function returns index position of substring. If substring is not there then it returns error 'substring not found'.  string.isalnum() : Returns True if the characters in the string are alphanumeric(alphabets or numbers) and there is at least one character, False otherwise. string.title(): this function is used to convert first letter of every word in string in capital letters. (1+1+1=3)  OR Loop in python provides else clause with loop also which will execute when the loop terminates normally i.e. when the test condition fails in while loop or when last value is executed in for loop but not when break terminates the loop	3
C	27	Disk Defragmenter - Disk defragmenter is a disk management utility that increases file access speeds by rearranging fragmented files on contiguous locations. Backup - Backup utility enables backing up of files, folders, databases or complete disks. (1 ½ + 1 ½ = 3)	3
C	28	When rule of a programming language is violated syntax error occurs. Eg: Print("Welcome") – This is an error 'p' should be small letter in print() statement in python. When the statement doesn't have any meaning in the language semantic error occurs. Eg: x + y = z (we can't have an expression on the left side of the assignment operator). Logical error occurs when we get unpredicted/wrong output from the program. Eg: if you give Area = 2*3.14 *r (The formula is wrong)	1+1+1=3
C	29	World  02 WIC 2 2202 puC dlroW World Cup 20  6 lines of output ½ mark each	1+1+1 = 3
C	30	num1= int(input("Enter the first integer:")) num2= int(input("Enter the second integer:")) if num1<num2: min=num1 else:	3

		<pre> min=num2 for i in range(1,min+1):     if (num1%i==0 and num2%i==0):         gcd= i lcm= num1*num2/gcd print("LCM=",lcm) print("GCD=",gcd)  OR  year = int(input("Enter the year in 4-digit form:")) if (year%100==0):     if(year%400==0):         print("Leap year")     else:         print("Not a leap year") elif(year%4==0):     print("Leap year") else:     print("Not a leap year") </pre> <p>(Input- ½ Mark, Logic- 2 Marks, output – ½ Mark)</p>	
		<b>SECTION- D</b>	
C	31	<p>a)</p> <pre> st=input("Enter the string:") st=st.lower() L=len(st) k=L//2 j=L-1 f=0 for i in range(k):     if st[i]!=st[j]:         f=1         break     j=j-1 if f == 0:     print("Palindrome") else:     print("Not Palindrome") </pre> <p>(Input – ½ Marks, Logic- 1 Marks, output- ½ Marks)</p> <p>b)</p> <pre> x= int(input("Enter the value for x:")) t= int(input("Enter the number of terms of the series:")) sum=0 if t==1:     sum=1 else:     for i in range(t):         sum = sum + pow(x,i) print("Sum=",sum) </pre> <p>(Input – ½ Marks,Logic- 2 Marks, output- ½ Marks) (Any other correct logic )</p>	2 + 3 = 5





		<pre> num = int(input("Enter an integer")) if(num%5==0) and (num%11==0):     print("Number divisible by 5 and 11") elif(num%5==0):     print("Number divisible only by 5") elif(num%11==0):     print("Number divisible only by 11") else:     print("Number not divisible by 5 or 11") </pre> <p>(Logic- 1 ½ Marks, output- ½ Marks) (Any other correct logic )</p>	
		<b>SECTION- E</b>	
C	34	<pre> num = int(input("Enter the number:")) sum=0 k=num while num &gt; 0:     d = num%10     sum= sum+ d*d*d     num=num//10 if sum==k:     print(k," is an Armstrong number") else:     print(k," is not an Armstrong number") </pre> <p>(Input – ½ Marks, Logic- 2 ½ Marks, output- 1 Marks) (Any other correct logic )</p>	4
C	35	<pre> st=input("Enter the string:") D=L=0 for i in st:     if i.isdigit():         D= D + 1     if i.islower():         L = L + 1 print("No. of digits in the string:", D) print("No. of lower case letters:", L) </pre> <p>(Input – ½ Marks, Logic- 2 ½ Marks, output- 1 Marks) (Any other correct logic )</p>	4