

Blue Print (XI – Computer Science)

| Unit | 1 Mark | 2 Mark | 3 Mark | 4 Mark | 5 Mark | Total Question | Total Marks |
|--|--------|--------|--------|--------|--------|----------------|-------------|
| Computer Fundamentals | 6 | 1 | 0 | 0 | 0 | 7 | 8 |
| Encoding Schemes | 3 | 2 | 0 | 0 | 0 | 5 | 7 |
| Computational Thinking and Programming - 1 | 9 | 4 | 5 | 2 | 3 | 23 | 55 |
| Total | 18 | 7 | 5 | 2 | 3 | 35 | |

CLASS- XI SUB: COMPUTER SCIENCE (083)

Time Allowed: 3 Hours Maximum Marks: 70 General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions of a particular section must be attempted in the correct order.
3. Section A has 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q34 against part c only.
8. All programming questions are to be answered using Python Language only.

| SECTION-A | | |
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| 1. | Which of the following describes about SIM card? (a) Connect with the base station (b) convert signals into digital form (c) process an app (d) connect with battery | 1 |
| 2. | Name of the component that used to both reads and writes data. (a) ROM (b) RAM (c) Flash Memory (d) Cache Memory | 1 |

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| 3. | You don't have to pay for Python and you can view its source code too. It means Python is- (a) freeware (b) free and open source (c) open source (d) shareware | 1 |
| 4. | Which of the following is not a valid encoding scheme for characters? (a) ASCII (b) ISCII (c) Unicode (d) ESCII | 1 |
| 5. | What will be the size of the following constant "MAMS\s"? (a) 7 (b) 8 (c) 10 (d) 9 | 1 |
| 6. | Define ISCII . | 1 |
| 7. | How many times will the following loop run? Given: p=4 for i in range (p,20,5): (a) 3 times (b) 4 times (c) 5 times (d) infinite times | 1 |
| 8. | Choose the correct octal number for the given hexadecimal number (EB4A) ₁₆ . (a) (156521) ₈ (b) (166321) ₈ (c) (165512) ₈ (d) (156412) ₈ | 1 |
| 9. | Select the correct output of the code : >>> S = "1welcome 2the Worlds of Wonder" >>> S.title() (a) '1Welcome 2the worlds of wonder' (b) '1Welcome 2the Worlds of Wonder' (c) '1WELCOME 2THE WORLDS OF WONDER' (d) '1Welcome 2The Worlds Of Wonder' | 1 |
| 10. | What will be the output of below Python code? str1="Aplication" str2=str1.replace('a','A') print(str2) (a) Application (b) Application (c) ApplicAtion (d) applicAtion | 1 |

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| 11. | Which of the following is an invalid identifier? (a) MyName (b) None (c) Second_Name (d) My_Name | 1 |
| 12. | For which set of values the python code (s=(a**4)+5*5**(b+b)) will give the output given below: a. a=1, b=2 b. a=3, b=2 c. a=2, b=1 d. a=3, b=1 | 1 |

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| 13. | Tanisha is facing a problem of virus in her computer. Her friend has suggested her to run anti-virus software to remove viruses present in her system. Anti-Virus software comes under which category? a. Proprietary b.OS c. Utility software d. Device Driver | 1 |
| 14. | Which of the following statement will return error? a. print("Hello" + "Bye") b. print("Hello" + "123") c. print("Hello" + 123) d. print("456" + "123") | 1 |
| 15. | Mansi is confused about the free operating system available in the market. Few of her friends suggested a few operating systems. Help her in choosing free operating system for her device: a. Ubuntu b. Windows c. Google Chrome d. None of these | 1 |
| 16. | The term for the processor that executes mathematical and logical operations is a. Control b. ALU c. Register d. Cache Memory | 1 |

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as:

- (a) Both A and R are true and R is the correct explanation for A.
- (b) Both A and R are true and R is not the correct explanation for A
- (c) A is True but R is False
- (d) A is false but R is True

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| 17. | Assertion(A): In Python, each character of the string is assigned two way indices. Reason (R): Strings are the sequences of characters where their indices start with 1 in the forward direction and with -1 in the backward direction. | 1 |
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| 18. | <p>Assertion (A): - A break statement continues the loop if it lies within a loop.</p> <p>Reasoning (R) :- The else clause of a Python loop executes only when the loop ends normally , not when the loop is terminating because of a break statement .</p> | 1 |
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SECTION-B

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| 19. | Distinguish between internal and external memory. | 2 |
| 20. | <p>Do the following conversions:</p> <p>(a) $(4468)_{10} = ()_{16}$</p> <p>(b) $(47.75)_{10} = ()_2$</p> <p style="text-align: center;">OR</p> <p>Explain about the categories of software.</p> | 2 |

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| 21. | Write a program to accept a string. Create a new string with all the consonants deleted from the string. | 2 |
| 22. | <p>Write code snippet for the following:</p> <p>(i) Import only random() function from appropriate module. (ii) Rahul wants to generate a random number between 5 to 12. How you will generate this?</p> | 2 |
| 23. | Identify the identifier, keyword, literal, operator from the following code. <code>Name = input("Enter your name")</code> | 2 |

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| 24. | <p>Rewrite the following code after correcting the errors and underline the corrections:</p> <pre> weather = 'raining' If weather = 'sunny' : print ("wear sunblock") elif weather = "snow": print ("going skiing") Else: print (weather) </pre> <p style="text-align: center;">OR</p> <p>Which data types of Python handle Number? Give example.</p> | 2 |
| 25. | <p>Convert the following: (i) $(187)_{10} = ()_2$ (ii) $(213)_8 = ()_{10}$</p> | 2 |
| SECTION-C | | |
| 26. | Write a python script to calculate the factorial of a number (N). | 3 |
| 27. | Write a program to accept a string and check whether the string is palindrome or not. | 3 |

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| 28. | <p>Write a program to print monthly telephone bill. Calculate the bill based on the following criteria.</p> <p>Number of calls Price per call</p> <p>Upto 100 0.00</p> <p>> 100 2.50</p> <p>> 500 4.50</p> <p>>1000 7.50</p> <p><u>Instructions:</u> If the number of calls is 250 then no charges for first 100 calls and remaining 150 calls will be charged as 2.50</p> <p style="text-align: center;">OR</p> <p>Write a program to input a string and replace all vowels in the string with a character “#”. Display old string and new string.</p> | 1+2 |
| 29. | <p>Using the string truehuman = 'Loves One and All', what would be returned by following string slices?</p> <p>a) truehuman [- 3 :]</p> <p>b) truehuman [12 :]</p> <p>c) truehuman [10 : - 12]</p> | 3 |
| 30. | <p>Explain any three functions of maths module using suitable statements.</p> | 3 |
| SECTION-D | | |

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| 31. | <p>(a) Write the use of <code>isupper()</code> and <code>isalnum()</code> functions of string object. (b) Write output of</p> <pre>s="ComPutEr" for i in s: if i in 'aeiou': print('*',end=") elif i.isupper(): print(i,end=") else: print('-)</pre> | 2+3 |
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| 32. | <pre>mySubject = "I Love Computer Science"</pre> <p>(a) <code>print(mySubject[0:len(mySubject)])</code> (b) <code>print(mySubject[-7:-1])</code> (c) <code>print(mySubject[::2])</code> (d) <code>mySubject[10:2]</code> (e) <code>print(mySubject[::-2])</code></p> | 5 |
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33. Yagnesh a fruit seller, who sales the seasonal fruits. In Summer days, he sales Fruits like: 'Mango', 'Papaya', 'Watermelon', 'Pineapple', 'Litchi' . In Winter days, he sales Fruits like: 'Orange', 'Pear', 'Pomegranate', 'Kiwi', 'Pineapple' . He also planned to sale the Rainy season Fruits like: 'Jamun', 'Peaches', 'Cherries' . He wants to perform some operations on these Fruits. As a programmer , help him to successfully execute the given task .

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Total_Fruits = [ ]
Summer_Fruits = ['Mango', 'Papaya', 'Watermelon', 'Pineapple',
'Litchi'] Winter_Fruits = ['Orange', 'Pear', 'Pomegranate',
'Kiwi','Pineapple'] print("Summer Season Fruits :", Summer_Fruits)
print("Winter Season Fruits :", Winter_Fruits)
sumwin_Fruits = [Summer_Fruits , Winter_Fruits]
Total_Fruits.append(sumwin_Fruits)
Rainy_Fruits = ['Jamun','Peaches','Cherries']
Total_Fruits_____#Statement1 print("The
Fruitseller has : ",Total_Fruits)
print()
print("One of the Rainy season Fruit : ",
Total_Fruits[1][1]) #Statement2 print()
_____#Statement3
print("Summer_Fruits sorted in Ascending order : ",
Summer_Fruits)
print()
_____#Statement4

print("Winter Fruits sorted in Descending order : ",
Winter_Fruits) del Total_Fruits[0:3] #Statement5
print("The Fruitseller has sold all his fruits : ", Total_Fruits)
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(i) Help Yagnesh to add the rainy season fruits named as “Rainy_Fruits” at the second position of the Total_Fruits in Statement1 .

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| | <p>(ii) What will be the output of Statement2 .</p> <p>(iii) At the end of each day , he sales all of his fruits and he returns back home with empty Fruit basket and smiley face . Write an appropriate statement in Statement5 to empty his Fruit basket . Write an appropriate statement to destroy the basket also .</p> <p style="text-align: center;">OR (Option for Part iii only)</p> <p>(iii) Yagnesh wants to arrange the Summer season fruits alphabetically in ascending order. Guide him to make his work easier in Statement3 . He then wants to arrange the Winter season fruits alphabetically in descending order . Assist him to complete his work in Statement4 .</p> | |
| SECTION-E | | |
| 34. | <p>(a) Rewrite the following code using the while loop:</p> <pre>a=10 while a<20: print(a) a=a+3</pre> <p>(b) Write the Python statement of the following expression. $5 - xe^{2x} + 7z$</p> <p>(c) Write a Python program to print the factorial of a number. OR</p> <p>Write a Python program to print the Fibonacci Series. 0 1 1 2 3 5 ...</p> | 1+1+ 2 |
| 35. | <p>(a) Write the output of following code:</p> <pre>for i in range(1,5): for j in range(2,i+2): print(,,@",end= ,") print()</pre> <p>(b) Write any 2 differences between split() and partition() method.</p> | 2+2 |