KENDRIYA VIDYALAYA SANGATHAN, PATNA REGION
HALF YEARLY EXAMINATION, 2018–19

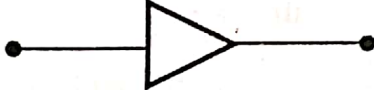### CLASS – XI
COMPUTER SCIENCE   Sl.No. ___249___

TIME – 3 HOURS]   **[MAX. MARKS – 70**

General Instructions :

(i)   All questions are compulsory.

(ii)   Mark for each question is mentioned against it.

(iii)   Programming Language : PYTHON.

1.	(a)	What are the components of CPU ? 1
	(b)	Expand the following terms : 1
		(i) EPROM (ii) ASCII
	(c)	Name any two commonly used operating systems. 1
	(d)	What role does the output unit play in a computer ? 1
	(e)	Write any two differences between RAM and ROM. 2
	(f)	What is utility software ? Name any two utility software. 2
	(g)	How is the power managed in a Mobile system ? 2
2.	(a)	What is cloud computing ? Name any one public cloud. 1
	(b)	Convert $(330)_{10}$ into binary. 1
	(c)	Add binary number 11.01 and 101.11 1
	(d)	Name the gates : 1

(i)

(ii)

(e)   Write the truth table for 2-input XOR gate.   2

(f)   State and verify any one De Morgan's law using truth table.   2

(g)   Convert $(11011010)_2$ to decimal number and hexadecimal number.   2

3.   (a)   Who developed Python Programming language and when ?   1

(b)   What does cross platform language mean ?   1

(c)   Write any two shortcomings of Python.   1

(d)   Name any two immutable data objects of Python.   1

(e)   What are the rules for naming an identifier ?   2

(f)   Differentiate between interactive mode and script mode.   2

(g)   Classify each of the following as a valid or invalid variable :   2

(i)   Length   (ii)   %age

(iii)   2nd innings   (iv)   Half_Yearly

4.   (a)   What will be the result of 3*2 and 3**2 ?   1

(b)   What will be the size of following constants :   1

(i)   '\n'   (ii)   "KV\'s"

(c)   Given that A=4, B=5, C=4, what will be the result of the following expressions :

(i)   A<C   (ii)   A<B   1

(d)   What is debugging ?   1

(e)   What will be the output of the following code :   2

(i)   x,y=5, 8

x,y=y, x + 21

print(x,y)

(ii)   a=1

a, b = a+1, a+1

print(a)

print(b)

(f)   Write the output :   2

    (i)   print("MyPython"*3)

    (ii)   print(3<4 and 4<5)

(g)   Write following expressions in Python :   2

    (i) $V = \dfrac{4}{3}\pi r^2 h$ (ii) $A = \tan x / \cos x + x$

    (iii) $y = |4z - e^{2x}|$ (iv) $F = a + b \underline{\quad} c + d$

5.   (a)   Write the pseudo code that will take a number from the user and print if it is positive, negative or zero.   2

(b)   Draw the flow chart to find the area of a triangle using formula ½ base X height.   2

(c)   Rewrite the following program using for loop :   2

```
sum=0

i=1

while (i<=10):

        sum=sum+i

        i=i+1

print("sum=",sum)
```

(d)   Write a program to compute simple interest and compound interest.   3

(e)   Write a program to find the greatest among the three integers.   3

(f)   Write a program to find the sum of the series :   3

$S = 1 + x + x^2 + x^3 + \ldots\ldots + xn$

6.   (a)   What do you mean by syntax error and semantics error ?   2

(b)   Why are logical errors harder to locate ?   2

(c)   If P = (5,4,3,2,1,0) evaluate the following expressions :   2

   (i)   P[0]   (ii)   P[1]

   (iii) P[P[0]]   (iv)   P[P[-1]]

(d)   Find the output of the following Python code :   3

   for Subject in ['Physics','Chemistry','Mathematics','English']:

   print (Subject)

   if Subject[0]=='M':

      break

   else:

      print ('Compulsory')

   print ('Optional')

(e)   What is a dictionary in Python? How can we access data from a dictionary? What is the main use of a dictionary ?   3

(f)   Write the algorithm to sort a list in ascending order using bubble sort.   3

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