

KENDRIYA VIDYALAYA SANGATHAN, PATNA REGION

HALF YEARLY EXAMINATION, 2018-19

CLASS – XI

COMPUTER SCIENCE

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) 2 nd 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: 1
- | | |
|------------|-------------|
| i) $A < C$ | ii) $A < B$ |
|------------|-------------|
- 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)  $V = \frac{4}{3} \pi r^2 h$

ii)  $A = \tan x / \cos x + x$

iii)  $y = |4z - e^{2x}|$

iv)  $F = a + b\_c + d$

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  $\frac{1}{2}$  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

$S = 1 + x + x^2 + x^3 + \dots + x^n$

