

KENDRIYA VIDYALAYA SANGATHAN
MIDTERM (HALFYEARLY) EXAMINATION 2019

SUB: COMPUTER SCIENCE (083)

CLASS: XI
MARKS: 70

MAX

TIME: 3 hrs

General Instructions:

- All questions are compulsory.
- Question paper is divided into 4 sections A, B, C and D.

SECTION-A

- Q1. (a) Arrange the following memory units in ascending order. 1
i)30 MB ii)20000 KB iii) 2000 GB iv) 1 TB

2000GB (1 mark for correct answer)
- (b) What is an interpreter? 1
1 mark for correct answer/definition
- (c) Identify the keywords from the list. 1
i)int ii) except iii) while iv)SUM
int, except,while are the keywords
- (d) Expand the following. 2
i)CPU ii)RAM iii)PROM iv)BIOS

½ mark for each correct expansion
- (e) List down any four secondary storage devices. 2
Give an example for each of the following.
a) System software
b) Database management system
c) Utility software
- (f) *1 mark each each correct definition / explanation* 3
- (g) Give an example for a service provided by Cloud computing and 2
mention its advantage.
1 mark for correct example eg. Google drive ,
1 mark for advantage
- Q2. (a) Decimal equivalent of octal number (347) is 1
533 – 1 mark
- (b) ISCII stands for 1
Indian Standard code for Information Interchange
- (c) If $a=4+5j$ and $b=4+5j$ then what will be the value of $\text{print} (a \text{ is } b)$ 1

- a) True b) False c) $8+10j$ d) None

False (1 mark)

- (d) `a="hello "`
`print(a,a*4)` 1

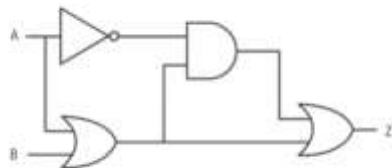
hello will be printed 5 times. (1 mark)

- (e) Which operations result in 8? 1

- i) $2 ** 4$ ii) $17 \% 9$ iii) $65 // 8$ iv) $64 ** 0.5$

(ii) 1 mark for correct choice

- (f) Write the Boolean expression for the following logic circuit. 2



$(A+B)+A'.(A+B)$ (1 mark for each term)

- (g) Draw the truth table and logic diagram of XOR Gate. 2

1 mark for logic diagram

1 mark for the truth table

- (h) Identify the functions of the operating system. 2

- i) loads and executes programs
- ii) converts source code to object code
- iii) used to maintain user defined databases
- iv) allocates and regains memory
- v) manages peripherals
- vi) processor Scheduling

i , iv,v,vi (1/2 mark for each correct choice)

- (i) Write a python program to find the frequency of a digit d in a given 3

number N. Example if N=122234 and d= 2 output is:-

2 occurs 3 times

1 mark for input

1 mark for logic

1 mark for output

- (j) Evaluate the following expressions 4
a) $5 < (5 \text{ and } 10)$ b) $8 \text{ and } ''$

c) $2 * 3 / 5 + 10 // 3 - 1$ d) $\text{int}(\text{True}) + \text{int}(\text{bool}(\text{False}))$

a. True

b. ''

c. 3.2

d. 1

1 mark for each correct output

SECTION-B

What are Docstrings in Python?

- Q.3 (a) *1 mark for correct definition* 1

Write following arithmetic expressions using operators in Python:

- (b) i) πr^2 ii) $\sqrt{b^2 - 4ac}$ 1

1/2 mark for each correct expression

What is the use of continue statement

- (c) *1 mark for correct / proper use of continue statement* 1

- (d) What is nested if statement? 1
1 mark for definition

Identify the data types of the following literals

- (e) i) True -----**Boolean**
ii) 67e0-9 ---Float
iii) $3 + 6j$ ----complex 2
iv) 0x78 ----Hexa
1/2 mark for each choice

- (f) Find the output of the given code in Python 2

a= 16-8//3

b=5**3

c= 9.0//4.0

d='Happy!' * 3

print('Values are',a,b,c,d)

a. 14, b. 125, c. 2.0 d. Happy! Happy!Happy!

1/2 mark for each correct answer

- (g) Write a program to check whether a given number is Armstrong Number 3
or not

A positive integer is called an Armstrong number of order n(Number is
ABCD and n is the no.of digits)

$ABCD. = A^n + B^n + C^n + D^n$ (Example $153 = 1^3 + 5^3 + 3^3$)

1 mark for input

1 mark for logic

1 mark for output

- (h) Following table is meant to be an interactive grade calculation that 4
converts from percentage into grade.

Percentage Range	Grade
> 85	A
> 70 to <=85	B
> 60 to <=70	C
> 45 to <=60	D
<33	F

Write a program to display the grade of a particular student after getting
his/her name and marks in five subjects out of 100. If any subject mark is
less than 33 then the grade should be F

1 mark for input

1 mark for logic

1 mark for proper usage of if condition

1 mark for output

SECTION-C

Predict the output

a,b=5,10

if a+a>b:

 a=a+1

else:

 b=b+1

print(a,b)

- Q.4 (a) 5 11(1 mark for correct answer) 1

Predict the output

for i in range(0,10):

- (b) if i==5: 1

```

    break
    print(L,end=' ')
0 1 2 3 4 ( 1 mark for proper output)

```

- What do you understand by indentationError in python?
 (c) *1 mark for correct definition / explanation* 1

Name the Exceptions which will occur in the following statements
 i) `c,d=0,12`
`t=d%c`

- (d) *zerodivisionError (1 mark for correct answer)* 1

- (e) `Str1="good"` 2

`Str2="morning"`

`A,B=10,20`

Identify the invalid expressions and justify

i) `print(Str1+Str2)`

ii) `print(Str1+A)`

iii) `print(Str2*B)`

iv) `print(Str1*Str2)`

1 mark for each correct choice

What are the rules for naming an identifier?

- (f) *½ mark for each rule (½ x 4 = 2 marks)* 2

Find the output for the following program

`for i in range(1,6,2):`

`for j in range(3,1,-2):`

`continue`

`print(i,j,i-j)`

- (g) *3 marks for correct output (2)* 3

- (h) Write a program to convert the total seconds input into hours minutes and 4 seconds.

1 mark for input

1 mark for logic

1 mark for proper usage of if condition

1 mark for output

SECTION-D

Name the Exceptions which will occur in the following statements

- Q.5 (a) ii) `x,y=12,'3'`
`res=x+y` 1

TypeError 1 mark for correct output

What is the use of breakpoints?

- (b) *1 mark for proper use* 1

Rewrite the following program after correcting errors if any and underline the correction

```
a,b = 0
n=input("Enter an integer")
if a + b = n
a +b = c
print c
```

(c) $\frac{1}{2}$ mark for each correction – $\frac{1}{2} \times 4 = 2$ 2

(d) Find the output of the following code assuming the value of x as given below 2

i)x=12 ii)x=13 iii)x=10 iv) x=25

```
if x>20:
    print(x+20)
elif x>10:
    print(x+10)
    if x<15:
        print(x+15)
if x<13:
    print(x+13)
else:
    print("Bye")
print("Finished")
```

$\frac{1}{2}$ mark for each output - $\frac{1}{2} \times 4 = 2$

Rewrite the following using for loop without changing the output:-

```
sum=0
```

```
i=1
```

```
while i<20:
```

(e) sum=sum+i 2

```
    i+=2
```

```
    print (sum)
```

$\frac{1}{2}$ mark for each correction

Write the difference between syntax error and logical error with example.

(f) 1 mark for each correct difference 2