

ARMY PUBLIC SCHOOL
ANNUAL EXAMINATION
SUBJECT : COMPUTER SCIENCE PYTHON

TIME: 3 HRS

SET -2

M.M: 70

General Instruction:

- All Questions are compulsory
- Use programming language as Python.

Computer Fundamentals ,Data Representation and Boolean Algebra– Section A(10)

Q1

- What do you understand by volatile memory? Give example. [1]
- What does a cross platform language mean? [1]
- Arrange the following in ascending order of memory capacity: TB, Byte, KB, PB, MB, GB [1]
- Write full form of ASCII. [1]
- Convert the following: (i) $(4A)_{16} = (\text{_____})_2$ (ii) $(106)_{10} = (\text{_____})_8$ [2]
- Prove Distributive law using truth table. [2]
- Draw the logic circuit from the following expression $A'B+A'C$ [2]

PYTHON- Section B (35)

Q2

- (i) Output of the following will be: [1/2]

```
p=3.14
```

```
print(type(pi))
```

- a) float b) Error c) 3.14 d) decimal

- (ii) This gate is used to reverse the logic gate. [1/2]

- a) AND gate b) OR gate c) NOT gate d) NOR gate

- (iii) Output of the Python statement will be: [1/2]

```
print("ABC">"abc")
```

- a) True b) False c) true d) Error

- (iv) Which of the following will be used to assign int values to 2 different variables x,y in a single line: a) $x,y = 10,20$ b) $x y = 10 20$ c) $x, y = \text{int}(10,20)$ d) $x = 10, y=20$ [1/2]

- Q3(a) Identify the type of Token: (i) `D_o_b` (ii) `True` (iii) `*` (iv) `%` [2]

- (b) Re-write the Python code after correcting the syntax error. Underline each of the corrections made: [2]

```
base=float(input("enter the base"))
```

```
exp=int(('enter exponent:'))
```

```
result=1
```

```
for i in range(exp):
```

```
result*=Base
```

```
print(result)
```

- (c) Write the output of the below Python code: [2+2=4]

<p>(i) num=9 total=0 for i in range(4): total=total+num print(num+i, total) num=num-1</p>	<p>(ii) x="amazing" print(x[3:],"and", x[:2]) print(x[-7],"and", x[-4:-2]) print(x[2:7],"and", x[-4:-1])</p>
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(d) Write logical expression for the following: [1x2=2]

(i) Name is Aman and age is between 18 and 35.

(ii) Place is either 'Delhi' or 'Goa' but not 'Jaipur'.

(e) Which of the following identifiers are valid? Give reasons, if invalid: [2]

INFO-PR, MYFILE, while ,comp_sc

(f) What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the minimum and maximum values that can be assigned to the variable digit. [2]

```
MAX = 3;
digit =80 + random.randrange(0,MAX )
for R in range (digit,80+1,-1):
    print(R,end="$")
print()
```

#Output Options:

i) 83\$82\$81\$80\$ ii) 80\$81\$82\$ iii) 80\$81\$ iv) 81\$80\$

Q4(a) Write Python statements of the following: -

(i) Display the value of a variable name, 4 times in a single statement. [1]

Example: - name = "Comp"

Write a statement to get output as:

CompCompCompComp

(ii) Display the address of variable temp1. [1]

(b) Attempt any two python programs given below: [2+2=4]

i) Fibonacci Series ii) Factorial of a number iii) Palindrome of a string

(c) Print the table of user defined number [2]

(d) Write command to reverse the given tuple: [2]

X=(15,110,115,120)

(e) Write a command to create a dictionary and delete an element from dictionary. [2]

(f) Write a program to print a pattern like: [2]

4321

432

43

4

(g) Write python script to calculate the sum of the following series: [2]

S=(1)+(1+2)+(1+2+3)+.....(1+2+3+.....+n)

(h) Write a program in Python to that reads a line and prints its statistics like: [3]

Number of uppercase letter:

Number of lowercase letter:

Number of alphabets:

Number of digits:

MySQL -Section C (15)

Q5(a) Aditya wants to add another column 'Gender' in a table 'Student'. He has written the following statement. However, it has errors. Rewrite the correct statement.

MODIFY TABLE STUDENT ADD GENDER char(1); [1]

(b) Write the name of various operators which are used with where clause. [1]

(c) In SQL, which command is used to SELECT only one copy of each set of duplicate rows [1]

(i) SELECT DISTINCT (ii) SELECT UNIQUE (iii) SELECT DIFFERENT (iv) ALL of the above

(d) Which of the following is a SQL aggregate function? [1]

(i) LEFT (ii) AVG (iii) JOIN (iv) LEN

(e) Which SQL statement is used to delete data FROM a database? [1]

(i) COLLAPSE (ii) REMOVE (iii) ALTER (iv) DELETE

(f) Define Primary key and Cardinality. [2]

(g) Explain the purpose of DDL and DML statement. Give two examples of each. [2]

Q6 Consider the given table and answer the queries that follow:

Table: Infant

ItemCode	Item	DatePurchase	UnitPrice	Discount
101	Frock	2016-01-23	1700	10
102	Towel	2015-09-23	1200	25
103	Soft Toy	2016-06-17	800	10
104	Baby Socks	2014-10-16	100	7
105	Baby Suit	2015-09-20	1100	5

NOTE : Discount column stores discount %.

(a) To display the details about Soft Toy. [1]

(b) To list the names of items and their unit price that have unit price less than 800 and discount more than 5%. [1]

(c) To list the names of items and their date of purchase that were purchased after 31st Dec, 2015. [1]

(d) To display Item name and discount in decreasing order of discount. [1]

Give output :

(i) SELECT substr(Item,6,4) FROM Infant where Item like 'Baby%'; [1]

(ii) Select distinct discount from Infant ; [1]

Society , Law and Ethics - SECTION D(10)

Q7(a) What are the rules for using social networking sites [2]

(b) Suggest the ways to protect the computer from cyber attack. [2]

(c) Define eavesdropping . [1]

(d) How cyber stalking is done? [2]

(e) What are the tips to safely browse the internet. [1]

(f) Which of the following is the most viral section of the internet? [1]

(a) Chat Messenger (b) Social networking sites (c) Tutorial sites (d) Chat-rooms

(g) Increase your security for social media account by always _____ as you step away from the system. [1]

(a) signing in (b) logging out (c) signing up (d) logging in