

ARMY PUBLIC SCHOOL
ANNUAL EXAMINATION
SUBJECT : COMPUTER SCIENCE PYTHON

TIME: 3 HRS

SET -1

M.M: 70

General Instruction:

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

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

Q1

- (a) How many Bytes will be required to store the word "INDIA" using ASCII -7 coding [1/2]
a) 10 bytes b) 5 bytes c) 7 bytes d) 4 bytes
- (b) This gate is used to reverse the logic gate. [1/2]
a) AND gate b) OR gate c) NOT gate d) NOR gate
- (c) The sequence of Computer memory units is: [1/2]
a) B-MB-TB-KB-GB b) B-MB-KB-TB-GB c) B-KB-MB-GB-TB d) TB-B-MB-KB-GB
- (d) What type of input device is considered in PDA/ Smart phones [1/2]
a) Touch screen b) OCR c) Smart card reader d) Keyboard
- (e) What do you understand by non-volatile memory? Give example. [1]
- (f) Write Full Form of ASCII. [1]

Q2 (a) Name the law and verify it using a truth table. [2]

$$A+BC=(A+B)(A+C)$$

(b) Draw the logic circuit from the following expression [2]

$$AB+A'C$$

(c) Convert the Following as Directed (i) $(23.25)_{10} = ()_2$ (ii) $(C4)_{16} = ()_8$ [2]

PYTHON – SECTION B (35)

Q3(a) Why following identifiers(variable names) are invalid: [2]

- (i) Employee Number (ii) 34Payscale (iii) \$text.ppt (iv) for

(b) Rewrite the given code after removing all syntax error(s) and underline each correction [2]

```
TEXT="GREAT
DAY"
for T in range[0,9]:
print TEXT(T)
print T+TEXT
```

(c) What will be the output produced by the following code fragment :

(i) name = " Neeru" [1]

```
age= 17
print ( "Hello, ", name)
print ("You will be" , age +1 , " next year")
```

(ii) i = 1 [1]

```
while i < 10:
    print(i)
    i += 2
```

(iii) L={'Name':"varungandhi","karangupta":"pure","target":"goal"} [2]

```
print(L.pop("target"))
print(L)
del L["karangupta"]
print(L)
```

(iv) Consider the following Python program and give the output :

```
N= int(input("Enter N:"))
i=1
sum = 0
```

```

while i<N :
    if i%2==0:
        sum = sum + i
    i= i+1
print(sum)

```

(a) when the input value for N is 5 [1]

(b) when the input value for N is 0 [1]

(d) Rewrite the following code fragment using for loop: [2]

```

i = 100;
while (i > 0):
    print (i)
    i = i - 3

```

(e) 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 each of the variable fly. [2]

```

city= ["DEL", "CHN", "KOL", "BOM", "BNG"]
for l in range(1,4):
    Fly = random.randrange(0,2) + 1 ;
    print( city[Fly] ,end=":")
print()

```

#Output Options:

i) DEL : CHN : KOL : ii) CHN : KOL : CHN : iii) KOL : BOM : BNG : iv) KOL : CHN : KOL :

Q4(a) Consider the string str="Tech Revolution". Write statements in Python to implement the following and give their output as well: [1x4=4]

- i) To display the last four characters.
- ii) To display the starting index for substring 'vo'.
- iii) To check whether the string contains 'vo' or not.
- iv) To repeat the string 3 times.

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

```

1234
123
12
1

```

(c) Write a command to create a dictionary and delete an element from dictionary. [3]

(d) Attempt any two python programs given below: [3+3=6]

- i) Fibonacci Series
- ii) prime number
- iii) reverse of a number

(e) Write a program to count and display the number of digits and the number of alphabet present in a string. [3]

(f) Write python script to calculate the sum of the following series: [3]

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

MySQL -Section B(15)

Q5

(a) Which SQL keyword is used to sort the result – set? [1]

- (i) SORT BY
- (ii) ORDER
- (iii) ORDER BY
- (iv) SORT

(b) Which of the following must be enclosed in double quotes? [1]

- (i) Dates
- (ii) Column Alias
- (iii) Strings
- (iv) All of the above

(c) In SQL, which of the following is not a data definition language commands? [1]

- (i) RENAME
- (ii) REVOKE
- (iii) GRANT
- (iv) UPDATE

(d) What is the full form of SQL? [1]

- (i) Structured Query Language
- (ii) Structured Query List
- (iii) Simple Query Language
- (iv) None of these

- (e) Write the name of all aggregate functions. [1]
 (f) Aruna is working on a table Shop. She wants to increase the price of all items by 10%. Write the command. [1]
 (g) Explain the difference between ALTER and UPDATE command. [2]
 (h) Define candidate key and degree. [2]

Q6 Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables.

Table :VEHICLE

CODE	VTYPE	PERKM
101	VOLVO BUS	160
102	AC DELUXE BUS	150
103	ORDINARY BUS	90
105	SUV	40
104	CAR	20

Note : PERKM is Freight Charges per kilometer , VTYPE is Vehicle Type

Table : TRAVEL

NO	NAME	TDATE	KM	CODE	NOP
101	Janish Kin	2015-11-13	200	101	32
103	VedikaSahai	2016-04-21	100	103	45
105	Tarun Ram	2016-03-23	350	102	42
102	John Fen	2016-02-13	90	102	40
107	Ahmed Khan	2015-01-10	75	104	2
104	Raveena	2016-05-28	80	105	4
106	Kripal Anya	2016-02-06	200	101	25

Note :

- NO is Traveller Number
- KM is Kilometer travelled
- NOP is number of travellers travelled in vehicle
- TDATE is Travel Date

- (a) To display the NAME of all the travellers from the table TRAVEL who are travelling by vehicle with code 101 or 102. [1]
 (b) To display all the details from table TRAVEL for the travellers, who have travelled distance more than 100 KM in ascending order of NOP. [1]
 (c) find the output for the following command
 (i). SELECT COUNT (*), CODE FROM TRAVEL GROUP BY CODE HAVING COUNT(*)>1; SELECT DISTINCT CODE FROM TRAVEL; [1]
 (ii). SELECT A.CODE,NAME,VTYPE FROM TRAVEL A,VEHICLE B WHERE A.CODE=B.CODE AND KM<90; [1]
 (iii). SELECT NAME,KM*PERKM FROM TRAVEL A, VEHICLE B WHERE A.CODE=B.CODE AND A.CODE='105'; [1]

Society , Law and Ethics - Section D (10)

- Q7(a) Define phishing. [1]
 (b) Define digital footprint. [1]
 (c) What is use of Firewall? What are the method to implement firewall. [2]
 (d) What measures should one take while using social networking sites? [2]
 (e) Define the different type of threat to computer. [2]
 (f) Part of the social media sites are the various games & 3rd party applications which helps _____ to get access to your data. [1]
 (i) ethical hackers (ii) penetration testers (iii) security auditors (iv) cyber-criminals
 (g) Try to keep your passwords without meaning so that _____ attack becomes almost impossible to perform successfully. [1]
 (i) social engineering (ii) phishing (iii) password guessing (iv) brute force