KENDRIYA VIDYALAYA SANGATHAN (JAMMU REGION)

SAMPLE PAPER-16: SESSION-2022-23

CLASS: XII COMPUTER SCIENCE NEW (083)

MAX. MARKS: 70 Marking Scheme DURATION: 3 HOURS.

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.

All programming questions are to be answered using Python Language only.

	SECTION-A **(18 - MCQ Type Questions)**	
Q.1	Which of the following is an invalid Literal in Python? (A) Null	1
Q.2	When a Python function does not have return statement then what does function return? (C) None	1
Q.3	What is a variable defined outside a function referred to as? (B) Global Variable	1
Q.4	Which of following is not a valid variable name in Python? (C) 11Dream	1
Q.5	Name the Python library Module which needs to be imported to invoke the randint() function. (D) import random	1
Q.6	Which of following is correct Python datatype for variable Vowels defined as given below. Vowels=([10,20], "Python", {'A' : 65,'a' : 97}, 1000) (B) Tuple	1
Q.7	Predict the Output of following Python Code. for P in range(2,9,7): print(P * " #") (D) # #	1
Q.8	Which Python approach is used for object serialization in handling of Binary File? (A) Pickling	1
Q.9	What will the above Python code do? dict={"Phy":94,"Che":70,"Bio":82,"Eng":95} dict.update({"Che":72,"Bio":80}) C. It will simply update the dictionary as dict={"Phy":94,"Che":72,"Bio":80,"Eng":95}	1
Q.10	Fill in the blank: _____is the first page that normally view at a website. (C) Home Page	1
Q.11	DML is used for _____? (B) Inserting, Deleting and Updating data	1
Q.12	Which statement is used to count number of rows in table Examination? SELECT COUNT(*) FROM Examination;	1
Q.13	Which is the right statement to fetch all records from table TOUR which start with city name "a"? (C) SELECT * FROM TOUR WHERE city LIKE 'a%';	1

Q.14	Which Command is used to display the non-repeated values of CITY attribute in the table of SQL? (B). SELECT DISTINCT (CITY)	1
Q.15	Drop TABLE command is belongs to DDL Command	1
Q.16	To establish a connection between Python and SQL database, which function is used? (D) connect() function	1
Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as **(a) Both A and R are true and R is the correct explanation for A** **(b) Both A and R are true and R is not the correct explanation for A** **(c) A is True but R is False** **(d) A is false but R is True**		
Q.17	(c) A is True but R is False	1
Q.18	(a) Both A and R are true and R is the correct explanation for A	1
	SECTION-B **(07 - Very Short Answer Type Questions)**	

Q.19	A student has written a code to input two numbers and greater number. His code is having errors. Rewrite the correct code and underline the corrections made.
	def greater(a,b): # def keyword
	if(a>b): # colon missing
	print(a, " is greater than ",b)
	elif(b>a): # Wrong code elif
	print(b, " is greater than ",a)
	else:
	print(a, " is equals to ",b)
	
	x=int(input("Enter First Number: "))
	y=int(input("Enter Second Number: "))
	
	greater(x,y) # 1 Argument Missing
	(½ mark for each correct correction made and underlined.)
		2

Q.20	(A) word="Programming" slice=word.upper()[::2] print(slice) output: PORMIG (B) rec={"countary":"India","population":"1.393 billion","area":"3.287million km²"} rec["capital"]="New Delhi" print("Keys=",len(rec.keys())) Output: Keys=4	2
Q.21	Find and write the output of the following python code : def magic(a=100,b=200): a=a+500 b=b-200 print(a,'@',b) return a p=100	2

	q=200 v=magic(p,q) print(v,'#',q) w=magic(v) print(w,'#',p) Output: (Half mark for each correct line) 600 @ 0 600 # 200 1100 @ 0 1100 # 100	
Q.22	Write full form on given abbreviation (i) TCP/IP -Transmission Control Protocol / Internet Protocol (ii) VoIP- Voice Over Internet Protocol	2
Q.23	Explain the difference between webpage and website with example of each. **OR** What is difference between Packet Switching and Circuit Switching? (1 mark for each correct difference.)	2
Q.24	Differentiate between fetchone() and fetchall() methods of SQL. **OR** Differentiate between count() and count(*) functions in SQL with appropriate example. (1 mark for explanation and 1 mark for example.	2
Q.25	What importance of Primary Key in a table? Give a suitable example of Primary Key. **OR** What importance of foreign Key in a table? Give a suitable example of foreign key. (1 mark for explanation and 1 mark for example.)	2
	SECTION-C **(05 - Short Answer Type Questions)**	

Q.26	def count_lines():
	f=open("student.txt",'r')
	rows=f.readlines()
	end_y=not_y=0
	
	for rec in rows:
	if(rec[-1]=='y'):
	end_y+=1
	else:
	not_y+=1
	print("The number of lines in file are", len(rows))
	print("The number of lines ending with alphabet 'y' are:",end_y)
	print("The number of lines not ending with alphabet 'y' are:",not_y)
	count_lines()
	OR
	def COUNT_LINE():
	poiter=open("STORY.TXT",'rt')
	lines=pointer.readlines()
	count=0
	for line in lines:
	if(line[0]=='T'):
	count+=1
	print("Lines Strated with 'T' are: ",count)
		3

	COUNT_LINE()	

Q.27	def Count_How_Many(Data, item):
	  count=0
	  for n in Data:
	  if(n==item):
	  count+=1
	  print(item, " found ", count, "times")
	
	d=[101,102,107,105,102,103,104,102]
	i=102
	Count_How_Many(d,i)
		3

Q.28	def PUSH_IN(Device):
	  el=input(" enter device Name: ")
	  Device.append(el)
	  print("Successfully Push an element")
	  print(Device)
	
	def POP_OUT(Device):
	  if(Device==[]):
	  print("Underflow")
	  else:
	  Device.pop()
	  print("Successfully Pop element")
	  print(Device)
	
	Dev=["Computer","Laptop","Tablet","Smart Watch"]
	PUSH_IN(Dev)
	POP_OUT(Dev)
	OR
	def PUSH_AT(Values):
	  stack=[]
	  print("List contains:\n",Values)
	  for n in Values:
	  if(n%3==0 and n%7==0):
	  stack.append(n)
	
	  if(len(stack)==0):
	  print("Stack is Empty, No element Found")
	  else:
	  print("stack Elements are:\n", stack)
	
	val=[10,15,21,35,42,77]
	PUSH_AT(val)
		3

Q.29	Consider the tables PRODUCT & COMPANY. Give the outputs for SQL queries (i) to (iv). **Table: PRODUCT**	

ID	PNAME	PRICE	MFD_DATE	QUANTITY
T001	Soap	12.00	11/03/2007	200
T002	Paste	39.50	23/12/2006	55
T003	Deodorant	125.00	12/06/2007	46

T004	Hair Oil	28.75	25/09/2007	325
T005	Cold Cream	66.00	09/10/2007	144
T006	Tooth Brush	25.00	17/02/2006	455

Table: COMPANY

ID	COMP_NAME	CITY
T001	HLL	Mumbai
T003	HLL	Mumbai
T004	Paras	Haryana
T002	Ponds	Noida
T006	Wipro	Ahmedabad

(A)

(i) SELECT ID, PNAME, COUNT(*) FROM PRODUCT
GROUP BY PNAME
HAVING PNAME LIKE ' %P ' ; ½

```
+------+-------+----------+
| ID   | PNAME | COUNT(*) |
+------+-------+----------+
| T002 | PASTE |        1 |
+------+-------+----------+
```

(ii) SELECT MIN(QUANTITY), MAX(PRICE), COUNT(PNAME) FROM PRODUCT; ½

```
+---------------+-------------+---------------+
| MIN(QUANTITY) | MAX(PRICE)  | COUNT(PNAME)  |
+---------------+-------------+---------------+
|            46 |         125 |             6 |
+---------------+-------------+---------------+
```

(iii) SELECT PNAME, PRICE FROM PRODUCT
WHERE MFD_DATE > '2007-07-01' ; ½

```
+------------+-------+
| PNAME      | PRICE |
+------------+-------+
| HAIR OIL   | 28.75 |
| COLD CREAM |    66 |
+------------+-------+
```

(iv) SELECT PNAME FROM PRODUCT ½
WHERE QUANTITY BETWEEN 100 AND 200;

```
+------------+
| PNAME      |
+------------+
| SOAP       |
| COLD CREAM |
+------------+
```

1

(B) SELECT PNAME, PRICE, COMP_NAME, CITY
FROM PRODUCT P NATURAL JOIN COMPANY C
WHERE C.CITY='MUMBAI'

ORDER BY P.PNAME ASC;

PNAME	PRICE	COMP_NAME	CITY
DEODORANT	125	HLL	MUMBAI
SOAP	12	HLL	MUMBAI

Q.30 Write SQL commands based on table EMPLOYEE for the questions (i) to (iii) given below. 3

Table : EMPLOYEE

ECODE	NAME	DESIGN	SGRADE	DOJ	DOB
101	Abdul Ahmad	EXECUTIVE	S03	23-Mar-2003	13-Jan-1980
102	Ravi Chander	HEAD-IT	S02	12-Feb-2010	22-Jul-1987
103	John Ken	RECEPTIONIST	S03	24-Jun-2009	24-Feb-1983
105	NazarAmeen	GM	S02	11-Aug-2006	03-Mar-1984
108	Priyam Sen	CEO	S0I	29-Dec-2004	19-Jan-1982

(i) SELECT * FROM EMPLOYEE ORDER BY DOJ DESC;

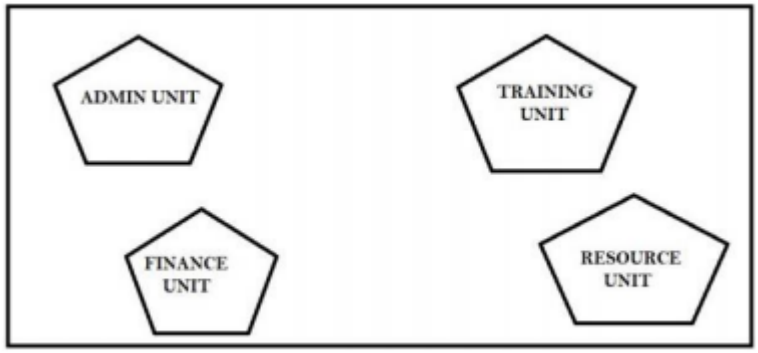
(ii) SELECT NAME, DESIGN FROM EMPLOYEE WHERE SGRADE – “S01” OR SGRADE = “SO5;

(iii) INSERT INTO EMPLOYEE VALUES(109, “RAKESH RAY”, “HEAD-IT.S02”, ’05-SEP-2007’, ’21-APR-1983’);

SECTION-D

(03 - Long Answer Type Questions)

Q.31 “Sankalp Sewa Sanasthan” an NGO is planning to setup its new campus at Chandigarh for its web-based activities. The campus has four(04) UNITS as shown below: 5



Distances between above UNITs are given here’s under:

Unit-1	Unit-2	Distance
Admin	Training	65 m
Admin	Resource	120 m
Admin	Finance	100 m
Finance	Training	60 m
Finance	Resource	40 m
Training	Resource	50 m

No. of Computers in various UNITs are:

Unit	No. of computers
Admin	150
Finance	25
Training	90
Resource	75

(i) Any suitable layout.
(ii) At Admin Unit the server will be established because there are maximum number of computers.
(iii) Hub/Switch
(iv) Admin and Resource, and Admin and Finance
(v) Radio wave

Q.32

(A).

CBSE@23.com
cbse2233COM

(B).

Statement 1: mycursor=con.cursor()
Statement 2: mycursor.execute("select * from Company where age>50")
Statement 3: mycursor.fetchall()
(1 mark for each correct statement)

OR

(A)

The original String is: Good Luck Ahead!
The modified String is: G**d L*ck *h**d!

(B)

Statement 1: BDcursor=con.cursor()
Statement 2:
BDcursor.execute("select * from TRAVELS WHERE Geo_Cond ='hilly area" AND Distance<1000)
Statement 3: BDcursor.fetchall()
(1 mark for each correct statement)

5

Q.33

Answer (A):

CSV is faster to handle
CSV is smaller in size and is easy to create
CSV is human readable and easy to edit manually
CSV is processed by almost all existing applications

Answer (B):

```
import csv
def Add_New():
    fout=open("playerdata.csv ","a",newline='\n')
    wr=csv.writer(fout)
    P_id=int(input("Enter Player Id :: "))
    P_name=input("Enter Player name :: ")
    P_runs=int(input("Enter price :: "))
    playerlist=[P-id,P_name,P_runs]
    wr.writerow(playerlist)
    fout.close()

def Display_Record():
    fin=open("playerdata.csv ","r",newline='\n')
```

```
        data=csv.reader(fin)
        found=False
        print("The Player Records are: ")
        for Rec in data:
                if int(rec[2])>5000:
                    found=True
                    print(rec[0],rec[1],rec[2])
        if found==False:
               print("Such Record not found")

Add_New():
Display_Record():
```

(mark for Advantages. ½ mark for importing csv module. 1 ½ marks each for correct definition of Add_New(): and Display_Record(): ½ mark for function call statements)

OR

(A) 1 mark for each correct difference

(B)

```
import binary
def Add_Book():
        fopen=open("library.dat ",'wb')
        book=[]
        B_id=int(input("Enter Book Id :: "))
        B_name=input("Enter Book name :: ")
        B_price=int(input("Enter Book price :: "))
        book=[B_id, B_name, B_price]
        pickle.dump(book,fopen)
        fopen.close()

def Trace_Book():
        fopen=open("library.dat ","r")
        data=pickle.load(fopen)
        found=False
        print("The Book Records are: ")
        for Rec in data:
                if (rec[2])<1000:
                    found=True
                    print(rec[0],rec[1],rec[2])
        if found==False:
               print("Such Record not found")

Add_Book():
Trace_Book():
```

SECTION-E

(02 – Case Study Type Questions)

Q.34 (i) ROLL_NO (1 mark for correct answer) — 4

(ii) New Degree: 5 New Cardinality: 8

(1/2 mark for correct degree and ½ mark for correct cardinality)

(iii)- (A)

```
SELECT EMP_NAME, BASIC+DA+HRA+NPS AS "GROSS SALARY" FROM SALARY;
```

(B)

```
UPDATE SALARY SET DA=DA+.03*BASIC;
```

	(1 mark for each correct Query) **OR Part of Option (iii)** (A) ALTER TABLE SALARY DROP COLUMN EMP_DESIG; (B) ALTER TABLE SALARY ADD INCOME_TAX FLOAT DEFAULT 12500; (1 mark for each correct Query)	
Q.35	Statement-1: f=open("STUDENT.DAT",'wb') Statement-2: pickle.dump(rec,f) Statement-3: R=pickle.load(f) Statement-4: if R[2] > 18:	4