CENTRAL KERALA SAHODAYA

CBSE Senior Secondary School Examination

Model Question Papers

(Computer Science)

Grade XII (2020-21)

INDEX

CKS Code: 083-01

CENTRAL KERALA SAHODAYA

Model Examination 2021

Computer Science

CLASS-XII

Time Allowed : 3 Hours | Maximum Score : 70

General Instructions:-

1. This question paper contains two **parts A and B**. **Each part is compulsory**.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. **Section I** is short answer questions, to be answered in **one word or one line**.
   b. **Section II** has two case studies questions. Each case study has 4 case-based sub-parts. An examinee is to attempt a**ny 4 out of the 5 subparts**.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which **two question have internal options.**
   b. Section-II is long answer questions of 3 marks each in which **two question have internal options**.
   c. Section-III is very long answer questions of 5 marks each in which **one question haveinternal options.**

All programming questions are to be answered using **using Python Language (3.x)only**

Question No.	Part-A	Marks
	Section-I	
	Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.	
1	Which of the following is / are invalid identifier(s)? (i) my_String_1 (ii) 1st_String (iii) yield (iv) _	1
2	Your friend Ranjana complaints that somebody has created a fake profile on facebook and defaming her character with abusive comments and pictures. Identify the type of cyber crime for this situation.	1
3	If we have a package called PKT1 with a module named module1. How can we access module's function func1()?	1
4	What are docstrings?	1
5	Name the protocol that is used to exchange large files across internet.	1
6	In SQL, the commands used to filter and display the data in the table is?	1
7	What will be the output of the following: x="abcdef" i="a" while i in x: print(i,end=' ') (i) abcdef (ii) a (iii) infinitely printing 'a' (iv) error	1

8	What is the output of 0.1 +0.2 ==0.3? (i) True (ii) False (iii) Error (iv) machine dependent	1
9	Name the switiching technique used for voice communication.	1
10	Arguments can be written in random order in (i) Required argument (ii) Positional argument (iii) Keyword argument (iv) Default argument	1
11	Which network device connects dissimilar networks?	1
12	In SQL, what is the use of Check constraint?	1
13	Consider the code given below: L=['aa', 'bb', 'cc'] L1=L L1[1]='XX' print(L) What will be the output? (i) ['aa', 'bb', 'cc'] (ii) 'aa', 'bb', 'cc' (iii) Error (iv) ['aa', 'XX', 'cc']	1
14	How does the below mentioned two statements differ in their execution? (i) L=[1, 2, 3] L.extend([4, 5]) print(L) (ii) L=[1, 2, 3] L.extend(4,5) print(L)	1
15	Write statements to place the file pointer fp1: (i) to the beginning of file (ii) to 10 bytes behind the current position of the file pointer	1
16	Which of the following will generate an integer? (i) random() (ii) randint() (iii) uniform (iv) all of these	1
17	Electronic junk mail or junk newsgroup postings are known as _ _ _ _ _ _.	1
18	A tuple is declared as T=(23, 8.6, 'hello', 41, x). What will be the value of T[: 1 : -1]?	1

19	GIve the output for the following code:
	a=['Cat', 'Dog', 'cat', 'Dog']
	def manip(f1):
	animal={}
	for index in f1:
	if index in animal:
	animal[index]+=1
	else:
	animal[index]=1
	return(animal)
	rec=manip(a)
	print(rec)
	print(len(rec))
		1

<table>
<tr><td>20</td><td>What is the meaning of “HAVING” clause in SELECT query?
(i) To filter out the summary groups (ii) To filter out the column groups
(iii) To filter out the row and column values (iv) None of these</td><td>1</td></tr>
<tr><td>21</td><td>TCP is a _ _ _ _ _ protocol.</td><td>1</td></tr>
<tr><td colspan="3">Section-II</td></tr>
<tr><td colspan="3">Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark</td></tr>
<tr><td>22</td><td>A residential school is considering to maintain their inventory using SQL to store the data. As a database administrator, Anil has decided that:
· Name of the database - myschool
· Name of the table - SCHOOL
· The attributes of SCHOOL are as follows:
RollNo - numeric
Name_student – character of size 20
Stream - character of size 20
Average – numeric
Table: SCHOOL
<table>
<tr><th>RollNo</th><th>Name_student</th><th>Stream</th><th>Average</th></tr>
<tr><td>101</td><td>Sita Sharma</td><td>Science</td><td>95</td></tr>
<tr><td>102</td><td>Gita Verma</td><td>Commerce</td><td>94</td></tr>
<tr><td>103</td><td>Jay Shah</td><td>Commerce</td><td>96</td></tr>
<tr><td>104</td><td>Smita Roy</td><td>Science</td><td>97</td></tr>
<tr><td>105</td><td>Suresh Menon</td><td>Science</td><td>89</td></tr>
<tr><td>106</td><td>Sneha Patel</td><td>Commerce</td><td>67</td></tr>
<tr><td>107</td><td>Sudhir Guha</td><td>Humanities</td><td>87</td></tr>
<tr><td>108</td><td>Hina Verma</td><td>Humanities</td><td>77</td></tr>
</table></td><td></td></tr>
<tr><td>(a)</td><td>Anil wants to check whether the table is created properly with respect to the table’s structure. Which command helps him for this from the following:
(i) show tables; (ii) select * from SCHOOL; (iii) desc SCHOOL
(iv) show databases;</td><td>1</td></tr>
<tr><td>(b)</td><td>Identify the attribute best suitable to be declared as a primary key.</td><td>1</td></tr>
<tr><td>(c)</td><td>Write the degree and cardinality of the table SCHOOL.</td><td>1</td></tr>
<tr><td>(d)</td><td>Insert the following data into the attributes RollNo, Name_stiudent and Average respectively in the given table SCHOOL.

RollNo=110, Name_student=“Ravi Shah” and Average=94</td><td>1</td></tr>
<tr><td>(e)</td><td>Anil wants to delete the database myschool and create a new database MyNewSchool. Write commands for it.</td><td>1</td></tr>
</table>

23	Anirudh of class 2 is writing a program to add records into a CSV file and also to update the contents of the file. He has written the following code. ***As a programmer, help him to successfully execute the given task.*** *import csv* *with open("store.csv","w",newline='') as fh:* *wob= _ _ _ _ _ _ _ _ _ _* ***#Line 1*** *wob.writerow(["Productid","Productname","Price"])* *ch="y"* *while ch=="y":* *pid=int(input("enter the prdt id:"))* *pnm=input("enter the prdt name:")* *ppr=int(input("enter the price:"))* *_ _ _ _ _ _ _ _ _ _ _ _ _ _ _* ***#Line 2*** *ch=input("Do you want to continue(y/n)?:")* *l=[]* *with open("store.csv","r") as rfh:* *rob= _ _ _ _ _ _ _ _ _ _* ***#Line 3*** *lines=list(rob)* *for i in lines:* *print("%10s"%i[0],"%15s"%i[1],"%10s"%i[2])* *upd=input("enter the prdtid of whose price price has to be changed:")* *f=0* *for i in lines:* *if i[0]==upd:* *pr=input("enter the new price:")* *i[2]=pr* *f=1* *if f==0:* *print("no such prdt is found")* *if f==1:* *print("updating...")* *with open(_ _ _ _ _ _ _ _ _ _) as newfh:* ***#Line 4*** *newob=csv.writer(newfh)* *_ _ _ _ _ _ _ _ _ _ _ _ _ _ _* ***#Line 5*** *with open("store.csv","r") as newrfh:* *newrob=csv.reader(newrfh)* *for i in newrob:* *print("%10s"%i[0], "%15s"%i[1], "%10s"%i[2])*	
(a)	Fill in the blank in Line 1 to create a csv writer object.	1
(b)	Fill in the blank in Line 2 to write each record on to the object.	1
(c)	Fill in the blank in Line 3 to create a csv reader object.	1
(d)	Fill in the blank in Line 4 to open the file so as to update the record.	1
(e)	Fill in the blank in Line 5 for writing the recors on to the object.	1

Part B

Section I

24	Evaluate the following expressions: a) X = 2* 3/ 5 + 10 //3 – 2**3 b) 20 <= 12 or 30 < 12 and not 20 < 50 and 55>20	2
25	Differentiate between Viruses and Worms in context of networking and data communication threats. **OR** Differentiate between star topology and Bus Topology.	2
26	Expand the term: a. POP b. DHTML c. WLAN d. IPR	2
27	Rewrite the following code after removing all syntax error(s). Underline each correction done in the code. C= dict{} n=input("Enter total number:") i=1 while i<=n A=input("Enter place") B=input("Enter number") C[A]=B i=i+1 print("Place","\t","Number") for i in C: print i + '\t'+C[i]	2
28	What is scope? What is the scope resolving rule in Python?	2
29	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 value that can be assigned to BEGIN and maximum value that can be assigned to LAST. import random POINTS=[20,40,10,30,15]; POINTS=[30,50,20,40,45]; BEGIN=random.randint(0,3) LAST=random.randint(2,3) for C in range(BEGIN,LAST+1): print (POINTS[C],"#",end="") (i) 20 #40 # (ii) 50 #20 #40 # (iii) 30 #50 #20 # (iv) 50 #20 #40 #45 #	2
30	Differentiate ORDER BY and GROUP BY with examples.	2

<table>
<tr><td>31</td><td>Explain DDL and DML commands in SQL, Give examples for each type of commands.
OR
Explain natural join and Equi join.</td><td>2</td></tr>
<tr><td>32</td><td>Write a MySQL-Python connectivity program to perform an Insert query in the database ‘SCHOOL’, which contains the table ‘Student’.
Table ‘student’ values are rollno, name, age (1, ’AMIT’, 22)</td><td>2</td></tr>
<tr><td>33</td><td>Find and write the output of the following Python code:
def makenew(mystr):
  newstr = “ ”
  count = 0
  for i in mystr:
  if count%2 ==0:
  newstr = newstr+i.lower()
  else:
  if i.islower():
  newstr = newstr+i.upper()
  else:
  newstr = newstr+i
  count +=1
  newstr = newstr+mystr[:3]
  print (“The new string is :”, newstr)
makenew(“St@John’s2020”)</td><td>2</td></tr>
<tr><td colspan="3">Section II</td></tr>
<tr><td>34</td><td>A list Num contains the following elements:
3, 21, 5, 6, 14, 8, 14, 3
Write a function which accepts a list as arguments to swap the content with the next value divisible by 7 so that the resultant array looks like:
3, 5, 21, 6, 8, 14, 3, 14</td><td>3</td></tr>
<tr><td>35</td><td>Write a function to count the number of lines in a text file, ‘DATA.TXT’ which starts and end with ‘T’ and ‘e’ respectively.
OR
Write a function to read data from a text file ‘DATA.TXT’, and display word which have maximum number of vowels characters.</td><td>3</td></tr>
<tr><td>36</td><td>Write the outputs of the SQL queries (i) to (iii) based on the relations Teacher and Posting given below:
Table: Stationary
<table>
<tr><th>S_ID</th><th>StationaryName</th><th>Company</th><th>Price</th></tr>
<tr><td>DP01</td><td>Dot Pen</td><td>ABC</td><td>10</td></tr>
<tr><td>PL02</td><td>Pencil</td><td>XYZ</td><td>6</td></tr>
<tr><td>ER05</td><td>Eraser</td><td>XYZ</td><td>7</td></tr>
<tr><td>PL01</td><td>Pencil</td><td>CAM</td><td>5</td></tr>
<tr><td>GP02</td><td>Gel Pen</td><td>ABC</td><td>15</td></tr>
</table></td><td></td></tr>
</table>

Table: Consumer

C_ID	ConsumerName	Address	S_ID
1	*Good Leaner*	*Delhi*	*PL01*
6	*Write Well*	*Mumbai*	*GP02*
12	*Topper*	*Delhi*	*DP01*
15	*Write & Draw*	*Delhi*	*PL02*

i. SELECT count(DISTINCT Address) FROM Consumer;
ii. SELECT Company, MAX(Price), MIN(Price), COUNT(*) from Stationary GROUP BY Company;
iii. SELECT Consumer.ConsumerName, Stationary.StationaryName, Stationary.Price FROM Stationary, Consumer WHERE Consumer.S_ID = Stationary.S_ID;

3

37

Write a function in Python POP_STACK(Arr), where Arr is a stack implemented by a list of numbers. The function returns the value deleted from the stack. Also display a underflow message if the stack does not contain any element.

OR

Write a function in Python PUSH_STACK(Arr,item), where Arr is a list of numbers. Append the item to the list if item is an even number. Display the stack if it has at least one element, otherwise display appropriate error message.

3

Section III

38

Write SQL queries for (i) to (v), which are based on the table: SCHOOL and ADMIN

TABLE: SCHOOL

CODE	TEACHERNAME	SUBJECT	DOJ	PERIODS	EXP
1001	*RAVI SHANKAR*	*ENGLISH*	*12/03/2000*	*24*	*10*
1009	*PRIYA RAI*	*PHYSICS*	*03/09/1998*	*26*	*12*
1203	*LISA ANAND*	*ENGLISH*	*09/04/2000*	*27*	*5*
1045	*YASHRAJ*	*MATHS*	*24/08/2000*	*24*	*15*
1123	*GANAN*	*PHYSICS*	*16/07/1999*	*28*	*3*
1167	*HARISH B*	*CHEMISTRY*	*19/10/1999*	*27*	*5*
1215	*UMESH*	*PHYSICS*	*11/05/1998*	*22*	*16*

TABLE: ADMIN

CODE	GENDER	DESIGNATION
1001	*MALE*	*VICE PRINCIPAL*
1009	*FEMALE*	*COORDINATOR*
1203	*FEMALE*	*COORDINATOR*
1045	*MALE*	*HOD*
1123	*MALE*	*SENIOR TEACHER*
1167	*MALE*	*SENIOR TEACHER*
1215	*MALE*	*HOD*

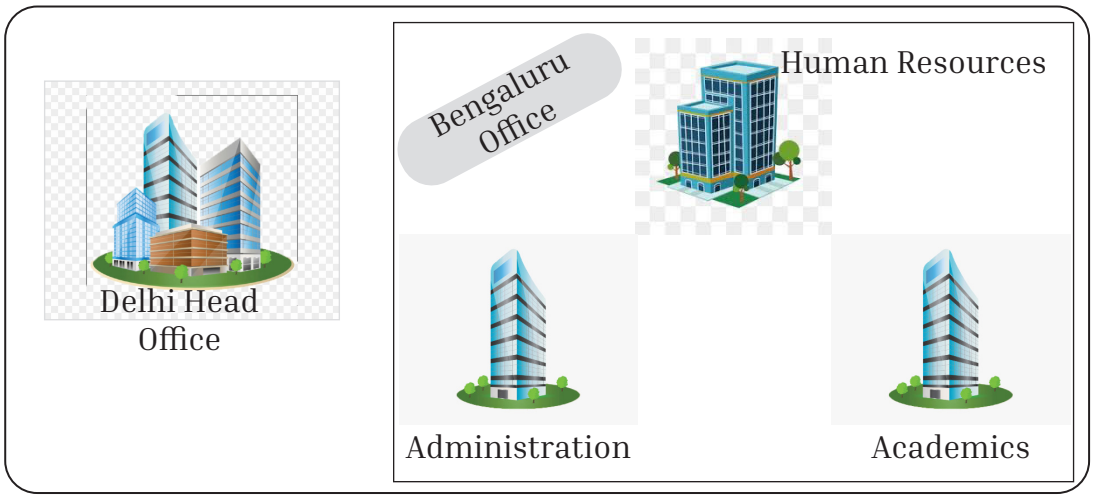
(i) To decrease period by 10% of the teachers of English subject.

(ii) To display TEACHERNAME, CODE and DESIGNATION from tables SCHOOL and ADMIN whose gender is male.

(iii)To Display number of teachers in each subject.

(iv)To display details of all teachers who have joined the school after 01/01/1999 in descending order of experience.

5

	(v) Delete all the entries of those teachers whose experience is less than 10 years and name contains the substring 'IS' in SCHOOL table.	
39	G.R.K International Inc. is planning to connect its Bengaluru Office Setup with its Head Office in Delhi. The Bengaluru Office G.R.K. International Inc. is spread across an area of approx. 1 square kilometres consisting of 3 blocks. Human Resources, Academics and Administration. You as network expert have to suggest answers to the four queries (i) to (v) raised by them. ***Shortest distance between various blocks*** Human Resources to Administration 100 m Human Resources to Academics 65 m Academics to Administration 110 m Delhi Head Office to Bengaluru Office 2350 Km ***Number of computers installed at various blocks:*** Human Resources 155 Administration 20 Academics 100 Delhi Head Office 20 	5
	(i) Suggest the most suitable block in the Bengaluru Office Setup, to host the server. Give a suitable reason with your suggestion.	
	(ii) Suggest the cable layout among the various blocks within the Bengaluru Office Setup for connecting the blocks.	
	(iii) Suggest a suitable networking device to be installed in each of the blocks essentially required for connecting computers inside the blocks with fast and efficient connectivity.	
	(iv) Where in this network we can use Router.	
	(v) Suggest the most suitable media to provide secure, fast and reliable data connectivity between Delhi Head Office and the Bengaluru Office Setup.	

40	A binary file “Mobile.dat” has structure [Model, Company, Price]. (i) Write a user defined function Add_Mobile() in Python to input data for a mobile and add it to a binary file “Mobile.dat” (ii) Write a function count_company(company) in Python which accepts the company name as parameter and counts and return the number of mobiles by the given company stored in the binary file “Mobile.dat”. **OR** A binary file “ATTENDANCE.DAT” has structure [Admission_Number, Name, Attendance, Working_days] . Write a function count_short_attendance() in Python that would read contents of the file “ATTENDANCE.DAT” and display the details of those students whose attendance is below 75%. Also display the total number of students with attendance below 75%.	5

CKS Code: 083-01

CENTRAL KERALA SAHODAYA

Model Examination 2021

Computer Science
CLASS-XII
Marking Scheme

Question No.	Part-A	Marks
	Section-I	
	Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.	
1	(ii) 1st_String (begin with a digit) (iii) yield (Keyword)	1
2	***Cyber Stalking*** Cyber stalking is a crime in which the attacker harasses a victim using electronic communication such as mail or IM or messages posted to a web site or a discussion group. A cyber stalker relies upon the anonymity offered by the internet to allow them to stalk their victim without being detected.	1
3	import pkt1.module1 pkt1.module1.func1()	1
4	A docstring is a Python triple quoted string that is the first thing in a function body / a module / a class. The docstring doesnot do any thing like comments, but Python stores it as a part of function documentation. Doc-strings appear like comments but are different.	1
5	***FTP*** (File transfer protocol)	1
6	Select, Where	1
7	(iii) infinitely printing 'a'	1
8	(ii) False	1
9	Circuit switiching	1
10	(iii) Keyword argument	1
11	***Gateway***. (router can also considered)	1
12	Check constraint is used to limit the value range that can be placed in a column.	1
13	(iv) ['aa', 'XX', 'cc']	1
14	(i) L=[1, 2, 3] L.extend([4, 5]) print(L) ***Will print [1, 2, 3, 4, 5]*** (ii) L=[1, 2, 3] L.extend(4,5) print(L) ***Will be an error as extend () need only one argument***	1

15	(i) to the beginning of file ***fp1.seek(0)*** (ii) to 10 bytes behind the current position of the file pointer ***fp1.seek(-10,1)***	1
16	(ii) randint()	1
17	spam	1
18	(x, 41, 'hello')	1
19	{'Cat' :1, 'Dog':2, 'cat':1} 3	1
20	(ii) To filter out the column groups	1
21	Connection - Oriented Protocol	1
Section-II		
22		
(a)	iii) desc SCHOOL;	1
(b)	RollNo	1
(c)	**4** - Degree is the number of attributes 8 - Cardinality is the number of tuples.	1
(d)	insert into SCHOOl(RollNo, Name_student, Average) values(110, 'Ravi Shah', 94);	1
(e)	drop database myschool; create database MyNewSchool;	1

23	*import csv* *with open("store.csv","w",newline='') as fh:* *wob= **csv.writer(fh)** #Line 1* *wob.writerow(["Productid","Productname","Price"])* *ch="y"* *while ch=="y":* *pid=int(input("enter the prdt id:"))* *pnm=input("enter the prdt name:")* *ppr=int(input("enter the price:"))* ***wob.writerow([pid,pnm,ppr])** #Line 2* *ch=input("Do you want to continue(y/n)?:")* *l=[]* *with open("store.csv","r") as rfh:* *rob= **csv.reader(rfh)** #Line 3* *lines=list(rob)* *for i in lines:* *print("%10s"%i[0],"%15s"%i[1],"%10s"%i[2])* *upd=input("enter the prdtid of whose price price has to be changed:")* *f=0* *for i in lines:* *if i[0]==upd:* *pr=input("enter the new price:")* *i[2]=pr* *f=1* *if f==0:* *print("no such prdt is found")* *if f==1:* *print("updating...")* *with open(**"store.csv","w",newline=''**) as newfh: #Line 4* *newob=csv.writer(newfh)* ***newob.writerows(lines)** #Line 5* *with open("store.csv","r") as newrfh:* *newrob=csv.reader(newrfh)* *for i in newrob:* *print("%10s"%i[0], "%15s"%i[1], "%10s"%i[2])*	

Part B

Section I

24	Evaluate the following expressions: a) X = 2* 3/ 5 + 10 //3 – 2**3 ***Ans: (1.2+3-8 =-3.2)*** b) 20 <= 12 or 30 < 12 and not 20 < 50 and 55>20 ***(Ans : F or F and T and T= F)***	2

25	Viruse is a malicious program that damages data files and cause harm to computer system. Worms disrupt sevices and create management problems. In some situations worms caninstall viruses that cause damage to system. **OR** In star topology all computers are connected using a central hub. -can be inexpensive, easy to install and reconfigure and easy to troubleshoot. In Bus topology each computer is directley connected to a primary network cable in a single line. -inexpensive, easy to install, simple and easy to expand.	2
26	a. POP - Post Office Protocol b. DHTML - Dynamic Hypertext Markup Language c. WLAN - Wireless Local Area Network d. IPR - Intellectual Property Rights	2
27	Rewrite the following code after removing all syntax error(s). Underline each correction done in the code. C= dict{} C=dict() #1 n=input(“Enter total number:”) n=int(input(“Enter total number:”)) i=1 while i<=n while i<=n : #2(nned n as integer,3 A=input(“Enter place”) B=input(“Enter number”) C[A]=B i=i+1 print(“Place”,”\t”,”Number”) for i in C: print i + ‘\t’+C[i] print(i + ‘\t’+C[i]) #4	2
28	Scope defines in which part(s) of the program a particular piece of code or data would be known or can be accessed. Python’s scope resolution steps are: (1) First it checks the local environment whether there is a variable with same name. (2) Second it checks the enclosing environment. If not found it repeats this to higher level enclosing environments. (3) After that Python would check the Global Environment. (4)Finally checks Bult-in environment that contains built-in variable and functions of Python If anywhere variable is found Python uses it otherwise, Python reports eror (LEBG Rule)	2

29	(i) 20 #40 # (ii) 50 #20 #40 # (iii) 30 #50 #20 # (1) (The generated values are 30#50#20#, 50#20#, 20#, 30#50#20#40#, 50#20#40#, 20#40# and 40#) Begin(min value)=0 Last(max value)=3 (1)	2
30	Differentiate ORDER BY and GROUP BY with examples.	2
31	The Data Definition Language commands allows us to perform tasks related to data definition. With this we cancreate, alter and drop objects. The Data Manipulation Language commands are used to manipulate data. With this we can query the database and manipulate data in existing schema objects. **OR** A NATURAL JOIN is a join operation that creates an implicit join clause for you basd on the common columns in two tables being joined. Common columns are the columns with same name in both the tables. An EQUI JOIN is a sql join where we use the equal sign as the comparison operator.	2
32	import mysql.connector as ms (¼) dobj=ms.connect(host='localhost', user='root', password='example@123',database='SCHOOL') (½) cobj=dobj.cursor() (¼) q1="insert into student values(1, 'AMIT',22)" (¼) cobj.execute(q1) (¼) dobj.commit() (¼) dobj.close() (¼)	2

33	Find and write the output of the following Python code:
	def makenew(mystr):
	  newstr = " "
	  count = 0
	  for i in mystr:
	  if count%2 ==0:
	  newstr = newstr+i.lower()
	  else:
	  if i.islower():
	  newstr = newstr+i.upper()
	  else:
	  newstr = newstr+i
	  count +=1
	  newstr = newstr+mystr[:3]
	  print ("The new string is :", newstr)
	makenew("St@John's2020")
	
	output:-
	The new string is : sT@JoHn's2020St@
		2

Section II

34

```
num=[3, 21, 5, 6, 14, 8, 14, 3]
L=len(num)
i=0
while i<L:
    if num[i]%7==0:
        num[i], num[i+1]=num[i+1], num[i]
        i=i+2
    else:
        i=i+1
print(num)
```

3

35

```
f1=open("data.txt","r")
lines=f1.readlines()
print("All Data of file in lines: \n",lines)
count=0
i=1
for line in lines:
    print("Line %d : %s ,length is : %d"%(i,line,len(line)))
    i+=1
    if line[0]=='T': and  line[-1]=='e':
        count+=1
print("Lines start with 'T' and end with 'e' is ", count)
```

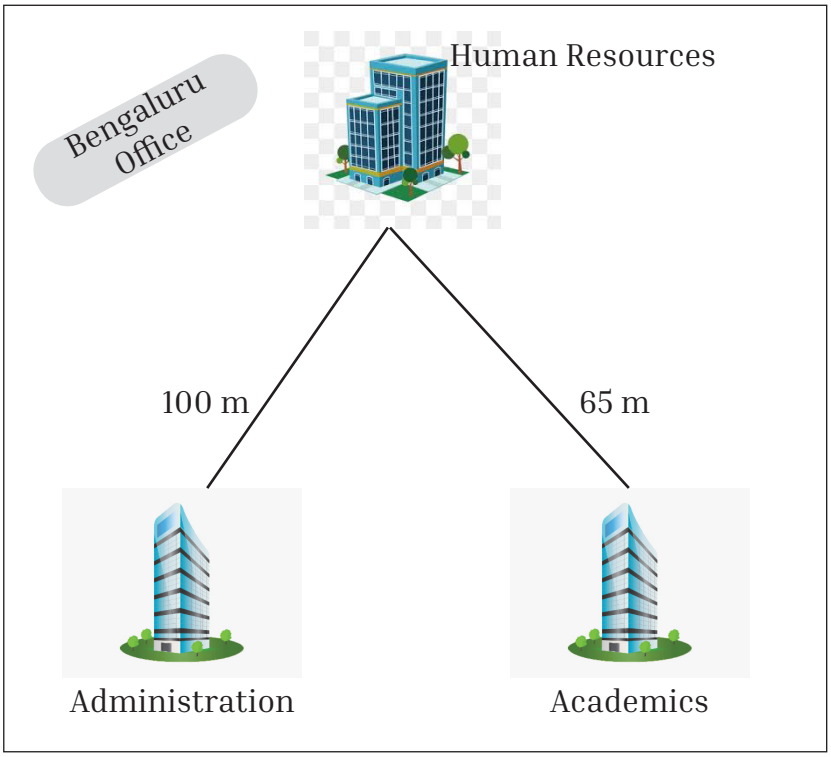
OR

```
f1=open("data.txt","r")
s=f1.read()
print(s)
countV=0
countC=0
words=s.split()
print(words,", ",len(words))
maxV=0
final=""
for word in words:
    countV=0
    for ch in word:
        if ch.isalnum()==True:
            if ch=='a' or ch=='e' or ch=='i' or ch=='o' or ch=='u':
                countV+=1
    if maxV<countV:
        maxV=countV
        final=word
print("Final : ",final,", maxV: ",maxV)
```

3

36	i. SELECT count(DISTINCT Address) FROM Consumer;
	2
	ii. SELECT Company, MAX(Price), MIN(Price), COUNT(*) from Stationary GROUP BY Company;
	Company Max(Price) Min(Price) count
	ABC 15 10 2
	XYZ 7 6 2
	CAM 5 5 1
	iii. SELECT Consumer.ConsumerName, Stationary.StationaryName, Stationary.Price FROM Stationary, Consumer WHERE Consumer.S_ID = Stationary.S_ID;
	Good Learner Pencil 5
	Write Well Gel Pen 15
	Topper Dot Pen 10
	Write & Draw Pencil 6
		3

37	*def POP_STACK(Arr):* *if (Arr==[]):* *print ("Stack Empty UNDERFLOW")* *else:* *val=Arr.pop()* *print ("Deleted element is : ",val)* *return val* **OR** *def PUSH_STACK(Arr,item):* *if (Arr==[]):* *print ("Stack Empty")* *elif item%2==0:* *Arr.append(item)* *print ("Stack is", Arr)*	3
	Section III	
38	(i) To decrease period by 10% of the teachers of English subject. ***update SCHOOL set PERIODS=0.9*PERIODS;***	1
	(ii) To display TEACHERNAME, CODE and DESIGNATION from tables SCHOOL and ADMIN whose gender is male. ***select SCHOOL.TEACHERNAME, SCHOOL.CODE, ADMIN.DESIGNATION from SCHOOL, ADMIN where gender='MALE'.***	1
	(iii)To Display number of teachers in each subject. ***select SUBJECT, count(*) from SCHOOL group by SUBJECT;***	1
	(iv)To display details of all teachers who have joined the school after 01/01/1999 in descending order of experience. ***select * from SCHOOL where DOJ>' 01/01/1999' order by EXPERIENCE desc;***	1
	(v) Delete all the entries of those teachers whose experience is less than 10 years and name contains the substring 'IS' in SCHOOL table. ***delete from SCHOOL where exp<10 and name like '%IS%';***	1

39	(i) In Human Resources as it houses the maximum number of computers; hence most traffic will be local. (80-20Rule)	
	(ii) 	
	(iii) Switch	
	(iv) Human Resources *(between Bengaluru and Delhi can also be considered)*	
	(v) Satellie Link	

40	*import pickle* *def Add_Mobile():* *fobj=open("Mobile.dat","ab")* *Model=input("Enter Model:")* *Company=input("Enter Company:")* *Price = int(input("Price:"))* *rec=[Model,Company,Price]* *pickle.dump(rec,fobj)* *fobj.close()* *def count_company(company):* *fobj=open("Mobile.dat","rb")* *num = 0* *try:* *while True:* *rec=pickle.load(fobj)* *if company==rec[1]:* *num = num + 1* *except:* *fobj.close()* *return num* (1/2 mark for opening the file in append mode) (1/2 mark for correctly taking the input) (1/2 mark for correctly forming the list to be written to the file) (1/2 mark for correct dump statement) (1/2 mark for closing the file) (1/2 mark for opening the file in read mode) (1/2 mark for correct use of try...except block) (1/2 mark for infinite loop and loading the record) (1/2 mark for comparing the record correctly and calculating the count of matching records) (1/2 mark for correct return statement) **OR**	5

```
import pickle
def count_short_attendance():
    fobj=open("ATTENDANCE.DAT","rb")
    num = 0
    try:
        while True:
            rec=pickle.load(fobj)
            a=rec[2]/rec[3]*100
            if a > 75.0:
                print(rec[0],rec[1],rec[2],rec[3])
                num = num + 1
    except:
        fobj.close()
    return num
```

(1/2 mark for opening the file in read mode)
(1/2 mark for correct use of try...except block)
(1/2 mark for infinite loop)
(1/2 mark for loading the record)
(1 mark for calculating the attendance)
(1/2 mark for comparing the record correctly
(1/2 mark for displaying the matched record)
(1/2 for calculating the count of matching records)
(1/2 mark for correct return statement

CKS Code:083-02

CENTRAL KERALA SAHODAYA

Model examination 2020-21

COMPUTER SCIENCE

CLASS-XII

Max Marks: 70 **Time: 3 hrs**

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. Section – I is short answer questions, to be answered in one word or one line.
   b. Section – II has two case studies questions. Each case study has 4 case-based sub-parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which two question have internal options.
   b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
   c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

	PART A	**Marks allocated**
	Section-I **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.**	
1	Write keywords from the following a) If b)for d) While c)continue	**1**
2	Given the list Lst=[3,6,9,13,17,18,23,45], write the output of print(Lst[-5:7])	**1**
3	Write the full form of CSV.	**1**

4	Identify the valid logical operator from the following. a) in b) or c) > d)**	**1**
5	Suppose a tuple T is declared as T=('a','b','c','d','e','f','g') , which of the following statement is incorrect? a) T=T+('h',) b) print(T[-1]) c) print(T*2) d) t1=t2=T	**1**
6	Write a statement in python to declare dictionary "***Student***", its keys are 'rollno','name','mark' and values are 1,'Aravind',98.	**1**
7	A tuple is declared as T=(1,2,5,8,7) ,What will be the value of print(len(T))	**1**
8	Name the built-in mathematical function/ method used to find the square root of a number.	**1**
9	Name the protocol that is used to transfer files on a computer network.	**1**
10	Maya got an email link to update her bank details. She opened the link and entered all the details. Next, she was got to know, she was cheated. Identify the type of cyber crime for these situations.	**1**
11	In SQL name the clause that is used to display the field values without duplication.	**1**
12	In SQL, for pattern matching we use ---------- clause.	**1**
13	Write the name of aggregate function of SQL, that is used to display the average of values	**1**
14	Which of the following is a DML command? a) INSERT b) DROP c)CREATE d)ALTER	**1**
15	Name the guided media for the fast and efficient communication for long distance.	**1**
16	Identify the valid declaration of S: S=('jan',31,'feb'28,'mar',30) a) dictionary b)tuple c) list d) string	**1**
17	If the following code is executed, what will be the output of the following code? text="wonderfulworld" print(text[-5:])	**1**
18	Write SQl query to open the database Loans.	**1**
19	Expand the term WLL	**1**

<table>
<tr><td>20</td><td>Which table constraint prevents the entry of duplicate rows?
a) Default b)Distinct c)Not Null d) Primary Key</td><td>1</td></tr>
<tr><td>21</td><td>Write unguided media from the following.
a) Fibre optic b) Microwave c) Twisted pair d) Coaxial</td><td>1</td></tr>
<tr><td></td><td>Section-II
Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark</td><td></td></tr>
<tr><td>22</td><td>“Supertech” is an organization planned to maintain their staff’s details in a database using MySQL to store data. As a database administrator , Meera has decided that:
• Name of database: EMP
• Name of table : STAFF
• Attributes of STAFF are as follows
Sid-numeric
Name- Character of size 20
Dept- Character of size 20
Salary- numeric
Gender – Character of size 1
Table :STAFF
<table>
<tr><td>Sid</td><td>Name</td><td>Dept</td><td>Salary</td><td>Gender</td></tr>
<tr><td>1001</td><td>Sidharth</td><td>Computer</td><td>35000</td><td>M</td></tr>
<tr><td>1002</td><td>Anuradha</td><td>Sales</td><td>23000</td><td>F</td></tr>
<tr><td>1003</td><td>Subin</td><td>Accounts</td><td>30000</td><td>M</td></tr>
<tr><td>1004</td><td>Nishanth</td><td>Production</td><td>25000</td><td>M</td></tr>
<tr><td>1005</td><td>Karthika</td><td>Electrical</td><td>20000</td><td>F</td></tr>
<tr><td>1006</td><td>Vinod</td><td>Sales</td><td>23000</td><td>M</td></tr>
</table></td><td></td></tr>
<tr><td></td><td>a) Identify the attribute best suitable to be declared as primary key.</td><td>1</td></tr>
<tr><td></td><td>b) Write the degree and cardinality of the table STAFF.</td><td>1</td></tr>
<tr><td></td><td>c) Increase the salary of staff by 10% , whose salary less than 30000.</td><td>1</td></tr>
<tr><td></td><td>d) Meera wants to display the structure of the table STAFF, i.e name of attributes and its datatype that used in the table. Write query to display the structure.</td><td>1</td></tr>
<tr><td></td><td>e) Meera wants to remove tuples from the table STAFF. Which command will she use from the following?</td><td>1</td></tr>
</table>

	i) DELETE FROM STAFF; ii) DROP FROM STAFF; iii) DELETE TABLE STAFF; iv) DROP TUPLE STAFF;	

23	Sneha a student of class XII, writing a program in python to create CSV file "Result.csv" to store the result of previous years. This file will contain stream, percentage of marks and year for some entries. She has written the following code. As a programmer, help her to successfully execute the given task.
	
	import ---------- # Line 1
	def addrec(stream,percent,year): #write into csv file
	f=open('Result.csv','----------') #Line 2
	fw=csv.writer(f)
	fw.writerow([stream,percent,year])
	f.close()
	
	def readrec():
	f=open("Result.csv","r")
	fR=csv. ----------(f) #Line 3
	for row in fR:
	print(row)
	f. ---------- #Line 4
	addrec("science","98%","2018")
	addrec("commerce","99%","2018")
	addrec("Humanities","100%","2018")
	readrec() #Line 5	

	a) Name the module she should import in the Line 1	**1**
	b) Fill in the blank in Line 2, write the mode to add record to the CSV file.	**1**
	c) Fill in the blank in line 3 to read the data from CSV file.	**1**
	d) Fill in the Blank in Line 4 to close the file.	**1**
	e) Write the output she will obtain while executing line 5	**1**

	PART B Section-I	
24	Evaluate the following expressions: a) 2**3-4*2+8//2+1 b) (5<10) and (10<5) or (3<18) and not(8<18)	**2**
25	Write any two computer security threats and give one solution to security threats. **OR** What is cookies ? Write any two uses of cookies.	**2**
26	Expand the following terms: a) URL b) FTP c) GSM d)VoIP	**2**
27	Explain global variables and local variables with the help of a suitable example for each. **OR** Differentiate between positional arguments and default arguments with the help of suitable examples for each.	**2**

28	Rewrite the following code in Python after removing all syntax error(s).
	Underline each correction done in the code.
	Num=100
	For number in range (num):
	if number%10==0:
	number*=10
	print(number)
	elseif number%5==0:
	number*=5
	print(number)
	else
	print(number)
		2

29	What possible outputs are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum value that can be assigned to each of the variables L and U. import random Arr=[10,30,40,50,70,90,100] L=random.randrange(1,3)	**2**

	U=random.randrange(3,6) for i in range(L,U+1): print(Arr[i],"@",end="") i) 40 @50 @ ii) 10 @50 @70 @90 @ iii) 40 @50 @70 @90 @ iv) 40 @100 @	
30	Differentiate between primary key and candidate key of a table with the help of an example.	**2**
31	Differentiate between fetchone() and fetchall() methods with suitable example for each to retrieve data from the database.	**2**
32	Differentiate between DDL and DML commands of SQL. Write any two commands of DDL.	**2**

33	Find and write the output of the following python code.
	
	def printstring(s):
	L=len(s)
	s1=""
	for i in range(L):
	if s[i].isupper():
	s1=s1+s[i].lower()
	elif s[i].isalpha():
	s1=s1+s[i].upper()
	elif s[i].isdigit():
	continue
	else:
	s1=s1+"$$"
	print(s1)
	printstring("Exam21@Com")
		2

	Section- II	
34	Write a function Rotate_Lst(Arr,n) in python, which accept a list Arr of numbers and n is a numeric value by which all elements of the list are shifted to right. Sample input data of the list Arr=[10,15,35,45,68,34] , n=2 Output :Arr=[68,34,10,15,35,45]	**3**

35 | Write a function WCount() in python to count the number of words present in the text file "POEM.TXT". | **3**

If the file contains:

I have a tree, a Green, green tree

To shade me from the sun.

Output of the function should be:

Count of words:14

OR

Write a function AECount() in python to count the alphabets A and E from the file "LINE.TXT", should count and display the occurrence of A and E(including small cases 'a' and 'e' too).

If the file contains:

I am a student

I like programming

Output of the function should be:

Count of A/a: 3

Count of E/e: 2

36 | Write the outputs of the SQL queries (i) to (iii) based on the tables Item and Supplier. | **3**

Table : Item

Item_Id	Item_Name	Manufacturer	Qty	Unit_Price
101	Soap	ABC	50	40
102	Sanitizer	XYZ	100	60
103	Hand wash	ABC	150	75
104	Mask	ASM	250	30
105	Floor cleaner	ABC	40	90
106	Face wash	XYZ	30	110
107	Hand gloves	ASM	75	45

Table : Supplier

S_id	Name	City	Item_Id
S001	Dreamz	Ekm	104
S002	Safeclean	Pbvr	105
S003	Treasure	Mvpa	102
S004	MBeauty	Ekm	106

i) SELECT Manufacturer,count(*) FROM Item GROUP BY Manufacturer;

ii) SELECT MAX(Qty), MIN(Unit_Price) FROM Item;

iii) SELECT Item.Item_Id, Item.Item_Name, Item.Qty, Supplier.Name FROM Item, Supplier where Item.Item_Id = Supplier.Item_Id AND Supplier.City="EKM";

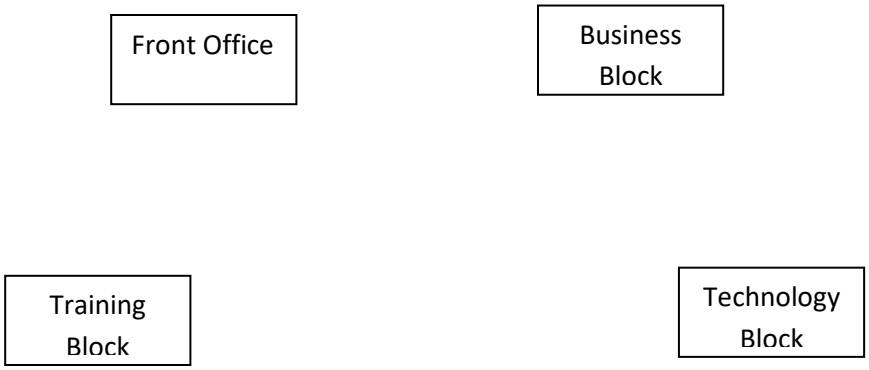
37 Write a function PUSH(Lst), where Lst is a list of numbers. From the list push all even numbers into the stack implemented by using a list. Display the stack if it has at least one element otherwise display appropriate error message. **3**

OR

Write a function in python POP(Stk), where Stk is a stack implemented by a list of numbers. The function return the value deleted from the stack.

Section-III

38 "SmartTech" organization has set up its new branch at Ernakulam for its web based activities. It has 4 building as shown in the diagram. **5**



Center to center distances between various blocks

Front office to business block	175m
Business block to technology block	150m
Technology block to training block	300m
Training block to front office	140m
Front office to technology block	450m
Business block to training block	350m

Number of computers in each of the blocks.

Front office	15
Business block	45
Technology block	125
Training block	275

i) Suggest the most suitable place to house the server with a suitable reason.

ii) Suggest an ideal layout for connecting these blocks for a wired connectivity.

iii) What type of network will be formed if all blocks are connected?

iv) Suggest the placement of the following devices with justification.

a) Switch/Hub b) Repeater

v) The organization is planning to link its head office situated in Delhi with the offices at Ernakulam. Suggest a transmission media out of the following for the efficient communication.

a) Telephone cable b) Radio link c)Satellite link

39 Write SQL commands for the following questions (i) to (v) based on the tables Item and Supplier. Table : Item **5**

Item_Id	Item_Name	Manufacturer	Qty	Unit_Price
101	Soap	ABC	50	40
102	Sanitizer	XYZ	100	60
103	Hand wash	ABC	150	75
104	Mask	ASM	250	30
105	Floor cleaner	ABC	40	90
106	Face wash	XYZ	30	110
107	Hand gloves	ASM	75	45

Table : Supplier

S_id	Name	City	Item_Id
S001	Dreamz	Ekm	104
S002	Safeclean	Pbvr	105
S003	Treasure	Mvpa	102
S004	MBeauty	Ekm	106

i) To display the details of those items have quantity is more than 100.

ii) To display the details of item in ascending order of item name.

iii) To display the item id and total price of sanitizer.

iv) To increase the unit_price of all item by 10%.

v) To display supplier name, city, item_name, unit_price from table item and supplier, with their corresponding Item_id.

40 A binary file "TEACHER.DAT" has structure (NO, NAME, DEPARTMNT, SALARY, GENDER). **5**

i. write a function CREATE_REC() to input data and add to file "TEACHER.DAT".

ii. Write a function SEARCH_ REC(NAME) to search record by passing teacher's name as function argument and print searched result.

OR

A binary file "STORE.DAT" has structure (ITEM_ID, ITEM_NAME, QTY,PRICE). Write a function **Display_ Rec()** in python to display the details of items have quantity is more than 35 from the file "STORE.DAT" and also print the total number of records in the file.

.

CENTRAL KERALA SAHODAYA

Model examination 2020-21

COMPUTER SCIENCE

Marking scheme

CLASS-XII

Max Marks: 70 **Time: 3 hrs**

	PART A	Marks allocated
	Section-I **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.**	
1	b)for d)continue	**1**
2	[13,17,18,23]	**1**
3	CSV-Comma separated value	**1**
4	b)or	**1**
5	a) T=T+(‘h’,)	**1**
6	Student={ ‘rollno’:1,’name’: ’Aravind’,’mark’:98}	**1**
7	5	**1**
8	sqrt()	**1**
9	FTP(File Transfer protocol)	**1**
10	Phishing attack	**1**
11	Distinct	**1**
12	Like clause	**1**
13	AVG()	**1**
14	a)INSERT	**1**
15	Fibre optic cable	**1**
16	b) tuple	**1**
17	‘world’	**1**
18	USE LOANS;	**1**
19	Wireless in Local Loop	**1**

20	d)Primary Key	**1**
21	b)Microwave	**1**
	Section-II **Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark**	
22		
	a) sid	**1**
	b) Degree :5 Cardinality: 6	**1**
	c) DESCRIBE STAFF; OR DESC STAFF;	**1**
	d) UPDATE STAFF SET SALARY=SALARY+SALARY*.1 WHERE SALARY<30000;	**1**
	e) i) DELETE FROM STAFF;	**1**
23		
	a) import csv	**1**
	b) f=open('Result.csv','a')	**1**
	c) fR=csv. reader(f)	**1**
	d) f.close()	**1**
	e) ['science', '98%', '2018'] ['commerce', '99%', '2018'] ['Humanities', '100%', '2018']	**1**
	Part – B	
	Section-I	
24	a) 5 b) False	**2**
25	Computer security threats : virus , worms, Trojan horse etc. (any two) Solution : Antivirus software/firewalls/IDS etc. OR Cookies are the small text file that store by the website on the user's hard disk It store online habits of a user. Cookies track browsing activities	**2**

	It allows page loads and sessions when we change settings on websites. Remind our login information	
26	a) URL –Uniform Resource Locator b) FTP -File Transfer Protocol c) GSM -Global System for mobiles d) VoIP- Voice over Internet Protocol	**2**

27	Global variables declared at the top level of a module/ program.
	For global variables, life time is entire program run.
	Eg:
	a=2 # global variable
	def f(x):
	y=x+a
	print(y)
	f(5)
	print(a)
	Local variables assigned inside a function or in a loop.
	For local variables, life time is their functions run.
	Eg:
	def f(x):
	y=x+10 # y is a local variable.
	print(y)
	f(5)
	OR
	Positional arguments are the arguments passed to a function in correct positional order.
	Eg:
	def f(a,b):
	print(a-b)
	f(100,200) # results -100
	f(200,100) # results 100
	• The number and position of arguments should be matched
	• If we change their order result will be change
	• If we change the number of arguments passed , it return error
	A default argument is an argument , have default value.
		2

<table>
<tr><td></td><td>If we are not provide values in function call, default value will assign to the function.
Eg:
def fu(a,b=100):
  print(a-b)
fu(100,200) # results -100
fu(100) # results 0</td><td></td></tr>
<tr><td>28</td><td>Num=100
for number in range (Num):
  if number%10==0:
    number*=10
    print(number)
  elif number%5==0:
    number*=5
    print(number)
  else:
    print(number)</td><td>2</td></tr>
<tr><td>29</td><td>i)40 @50 @
iii) 40 @50 @70 @90 @
Maximum value of L and U
L=2 ,U=5</td><td>2</td></tr>
<tr><td>30</td><td>Primary key is a set of one or more attributes that can uniquely identify tuples with in the relation.
All attribute combination inside a relation that can serve as primary key are candidate key as they are candidate for the primary key position.
Eg:
Table:classA
<table>
<tr><td>Admno</td><td>Rollno</td><td>Name</td><td>Mark</td></tr>
<tr><td>10080</td><td>1</td><td>Anu</td><td>450</td></tr>
<tr><td>10024</td><td>2</td><td>Raj</td><td>490</td></tr>
<tr><td>10045</td><td>3</td><td>Bilda</td><td>400</td></tr>
<tr><td>10056</td><td>4</td><td>Silja</td><td>385</td></tr>
<tr><td colspan="4">Admno suitable for primary key where as rollno act as candidate key.</td></tr>
</table></td><td>2</td></tr>
</table>

31	fetchone() fetches next row of a query result set.(single row) fetchall() fetches all the rows in a result set.	**2**
32	DDL- Data Definition Language eg: alter , create, drop DML- Data Manipulation Language eg: insert,select,update,delete	**2**
33	eXAM$$cOM	**2**
	Section II	

34	def Rotate_Lst(Arr,n):
	for i in range (n):
	x=Arr.pop()
	Arr.insert(0,x)
	print(Arr)
	
	Arr=[10,15,35,45,68,34]
	n=2
	Rotate_Lst(Arr,n)
	Note: Using of any correct code giving the same result is also accepted.
		3

35	def wcount():
	f=open("poem.txt","r")
	s=f.read()
	c=0
	word=s.split()
	for i in word:
	c+=1
	print("Count of words:",c)
	wcount()
	
	OR
	
	def AECount():
	f=open("LINE.txt","r")
	s=f.read()
	ca=0
	cm=0
		3

```
    for i in s:
        if i in('a','A'):
            ca+=1
        if i in ('m','M'):
            cm+=1
    print('Count of A/a: ',ca)
    print('Count of M/m:', cm)
AECount()
```

Note: Using of any correct code giving the same result is also accepted.

36 **3**

i)

Manufacturer	Count(*)
ABC	3
XYZ	2
ASM	2

ii)

Max(qty)	Min(unit_price)
250	30

iii)

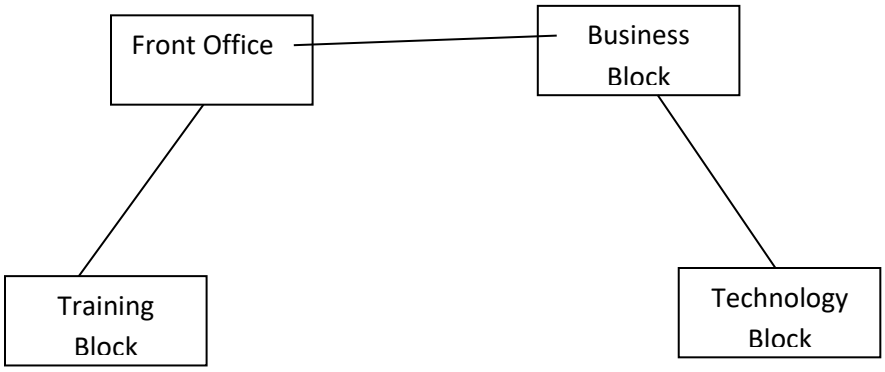
Item_id	Item_name	Qty	Name
104	Mask	250	Dreamz
106	Face wash	30	Mbeauty

37 **3**

```
def PUSH(Lst):
    s=[]
    for x in range(0,len(Lst)):
        if Lst[x]%2==0:
            s.append(Lst[x])
    if len(s)==0:
        print("Empty Stack")
    else:
        print(s)
```

OR

```
def POP(stk) :
# If stack is empty
    if len(stk)==0:
        print("Underflow")
    else:
        val=stk.pop()
```

	return val ***Note: Using of any correct code giving the same result is also accepted.***	
	Section III	
38	i)Training block, because more number of system ii)  iii) LAN iv) Switch/hub can place every building to connect computers . Repeater can place between front office and business block and business block and technology block because the distance between the buildings are more than 150m. v) c) satellite link	**5**

39	i)SELECT * FROM ITEM WHERE QTY>100;
	ii)SELECT * FROM ITEM ORDER BY ITEM_NAME;
	iii)SELECT ITEM_ID,QTY*UNIT_PRICE AS TOTAL FROM ITEM WHERE ITEM_NAME=’SANITIZER’;
	iv)UPDATE ITEM SET UNIT_PRICE=UNIT_PRICE+(UNIT_PRICE*.1);
	v) SELECT SUPPLIER.NAME, UPPLIER.CITY, ITEM.ITEM_NAME, ITEM. UNIT_PRICE FROM SUPPLIER, ITEM WHERE SUPPLIER. ITEM_ID =ITEM.ITEM_ID;
	OR
	Note: Using of any correct code giving the same result is also accepted.
		5

40	i) import pickle def create_rec(): file=open("teacher.dat",'wb') n=int(input("Enter the number of records"))	**5**

```
    for i in range(n):
        no=int(input("Enter number:"))
        name=input("Enter name:")
        dept=input("Enter department:")
        sal=int(input("Enter salary:"))
        rec=[no,name,dept,sal]
        pickle.dump(rec,file)
        print("ss")
    file.close()
create_rec()


ii)
  def search_Rec(name) :
    file=open("teacher.dat",'rb')
    while True:
        try:
            R=pickle.load(file)
            if R[1]==name:
                print("No:",R[0])
                print("name:",R[1])
                print("department:",R[2])
                print("salary:",R[3])
        except:
            break
    file.close()
n=input('enter name to search:')
search_Rec(n)
```

OR

```
import pickle
def Display_Rec() :
    file=open("STORE.DAT",'rb')
    count=0
    while True:
```

	try:
	R=pickle.load(file)
	print(R)
	count+=1
	if R[2]>35:
	print("Item_id",R[0])
	print("Item_name",R[1])
	Note: Using of any correct code giving the same result is also accepted.	

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CKS Code: 083-03

CENTRAL KERALA SAHODAYA
Model Examination 2021
COMPUTER SCIENCE
CLASS-XII

Time allowed: 3 Hrs. **Maximum Marks: 70**

General Instructions:-

1. This question paper contains two parts A and B.Each part is compulsory.

2. Both part A and Part B have choices.

3. Part-A has 2 sections:

a.Secton-I is short answer questions in one word or one line.

b.Section-II has two case studies questions. Each case study has 4 case-based sub_parts.An examinee is to attempt any 4 out of the 5 subparts.

4. Part-B is Descriptive Paper.

5. Part- B has three sections

a. Section-I is short answer questions of 2 marks each in which two questions internal options have.

b. Section-II is long answer questions of 3 marks each in which two questions have internal options.

c. Section-III is very long answer questions of 5 marks each in which one question has internal option.

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

QNo	Part-A	Marks Allocated
	SECTION-I **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question 1 to 21**	
1	Which one is valid relational operator in Python? a. / b. = c. = = d. and	1
2	What will the following function return? **def funsum(a,b,c):** **print(a*b*c)**	1
3	Given the lists Lst=['G','U','I','D','O','V','A','N','N] , write the output of: **print(Lst[3:6])**	1
4	Write the full form of CSV.	1
5	Write the ouput of following code: d={'Anil':19,'Aji':20}	1

	print(d.keys())	
6	**What is the output of the following code?** **L=[1,2,3]*3** **a)[1,2,3,1,2,3,1,2,3] b)0 c)None d) syntax error e)[123][123][123]**	1
7.	**What will be the output of the following Python code?** **print((4>5) and(2!=1) or(4<9))**	1
8.	**The readlines() method returns----------** **a)a str b) a list of lines c)a list of single characters** **d)a list of integers**	1
9.	What is wrong with the following statement? N=input("Enter a number") Sqr=N*N	1
10.	**Consider following SQL statement. What type of statement is this?** **SELECT * FROM employee;** **a)DML b)DDL c)DCL d)Integrity constraint**	1
11.	If column "Marks" of table "Student" contains the dataset {450,500,550,430,450,500,600}, what will be the output of following SQL statement? SELECT SUM(DISTINCT Marks) FROM Student; a) 2530 b) 3480 c) 3030 d) 2350	1
12	**What is wrong with the following statement?** **SELECT * FROM Employee where grade=NULL;** **Write the corrected form of above SQL statement.**	1
13	Choose the correct command to delete an attribute A from a relation R. a)Alter Table R delete A b)Alter Table R drop A c)Alter Table Drop A from R d)Delete A from R	1
14	Which function of mysql.connector library lets you check if the connection to the database is established or not?	1
15	Name the Transmission media which consists of an inner copper core and a second conducting outer sheath	1
16	Which of the following is not a unit for data transfer rate? a)bps b)abps c)gbps d)kbps	1
17	---------- address is assigned to network cards by the manufacturer.	1
18	Name any two popular Mobile processors.	1

<table>
<tr><td>19</td><td>----------are small text files stored on the client computer by the visited websites.</td><td>1</td></tr>
<tr><td>20</td><td>WiMax expands to----------</td><td>1</td></tr>
<tr><td>21</td><td>Which type of network (out of LAN, PAN and MAN) is formed, when you connect two mobiles using Bluetooth to transfer a picture file?</td><td>1</td></tr>
<tr><td></td><td>Section-II

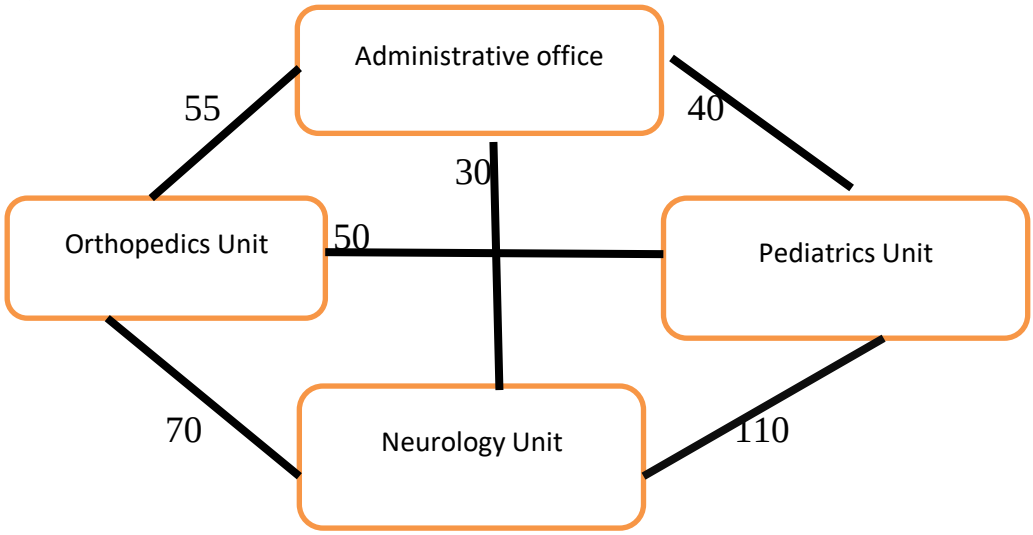
Both the case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark.</td><td></td></tr>
<tr><td>22</td><td>A FURNITURE showroom “Nilambur” is planning to maintain their inventory using SQL to store the data. A database administer has decided that:
• Name of the database -Showroom
• Name of the table –FURNITURE
• The column of FURNITURE table are as follows:
• No - integer
• Itemname – character of size 15
• itemcode - integer
• qty – integer
<table>
<tr><th>No</th><th>Itemname</th><th>Itemcode</th><th>Qty</th></tr>
<tr><td>2001</td><td>Double Bed</td><td>22</td><td>40</td></tr>
<tr><td>2002</td><td>Office Table</td><td>23</td><td>45</td></tr>
<tr><td>1003</td><td>Sofa</td><td>22</td><td>87</td></tr>
<tr><td>1005</td><td>Chair set</td><td>24</td><td>100</td></tr>
<tr><td>1006</td><td>Baby cot</td><td>21</td><td>50</td></tr>
<tr><td>2004</td><td>Single bed</td><td>22</td><td>100</td></tr>
<tr><td>2009</td><td>Corner Table</td><td>24</td><td>150</td></tr>
</table></td><td></td></tr>
<tr><td></td><td>(a) Identify the attribute best suitable to be declared as a primary key.</td><td>1</td></tr>
<tr><td></td><td>(b) If Administrator adds two more attributes in the table FURNITURE then what will be the degree and cardinality of the table FURNITURE.</td><td>1</td></tr>
<tr><td></td><td>(c) Administrator wants to update the content of the row whose No is 2004 as , Itemname = “Dinning Table ” Itemcode = 25 and Qty = 200</td><td>1</td></tr>
<tr><td></td><td>(d)Now administrator wants to display the structure of the table FURNITURE,ie,name of the attributes and their respective data types that he has used in the table. Write the query to display the same.</td><td>1</td></tr>
<tr><td></td><td>(e)Help the administrator for writing the command to remove all the records from the table.</td><td>1</td></tr>
</table>

23	**Nagenthra Rao has joined as an intern at Tecsoft company. The company has departments spread across India and the details of all departments are stored in a file,Tec.csv ,as shown below:** **Dept_ID** | **Dept_Name** | **Location** **D010** | **Admin** | **Kochi** **D020** | **Marketing** | **Hyderabad** **D030** | **Agri_Research** | **Delhi** **D040** | **Finance** | **Bangalore** **D050** | **Public Relations** | **Delhi** **D060** | **Agri_Marketing** | **Pune** **:** | **:** | **:** **:** | **:** | **:** **:** | **:** | **:** **Nagenthra has been asked to write a program to list the departments at a specific location. He has written the following code,with some words/syntax missing:** **----------** **#Line 1** **with open(----------,newline=--------) as csvfile:** **#Line2** **d=csv.reader(----------,delimiter=' ')** **#Line3** **for row in d:** **#Line 4** **if ---------in row:** **#Line 5** **print(----------)** **#Line 6**	
	(a)Which library must be added to the program, for it to work? Fill <u>Line1</u> for this. **(b)Complete <u>Line 2</u> so that the file storing the department details gets opened with suppressed newline processing.** **(c)The records are to be read row by row, not field by field. For this fill in the blank in <u>Line 3</u>** **(d)Nagenthra wants to print only the departments in location"Delhi".** **Complete Lines 5 and 6 for the same.** **(e)Convert the above given incomplete code so that location name='Delhi is passed to a function Dept_location ( ) and the function prints the rows of department details from that location.**	1 1 1 1 1
	Part-B	
	Section -I	
24	Evaluate the following expressions: a) 2 ** 3 ** 2 b) 7 // 5 + 8 * 2 / 4 – 3	2
25	Differentiate between star topology and bus topology Or What are protocols? Name any two protocols	2
26	Expand the following terms:- a)WLL b)DNS c)SIM d)IMAP	2
27	What is a module in Python? Define any two functions of Math module in python. **OR**	2

	Differentiate between Positional Argument and Default Argument of function in python with suitable example.	
28	Rewrite the following code after removing the error(s). Underline each correction. **for name in ['Shruthi','Priya','Pradeep','Vaishnav'):** **print name** **if name[0] = 'P'** **break** **else:** **print('Over")** **print("Done")**	2
29	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 maximum values that can be assigned to each of the variables **Lower and Upper.** import random AR=[15,25,35,45,55,65,75]; Lower =random.randint(1,4) Upper =random.randint(2,5) for K in range(Lower, Upper +1): print (AR[K],end="#") (i) 15#35#55#75# (ii) 55# (iii) 35#55#75# (iv) 45#55#65#	2
30	How is equi-join different from natural-join? Give example	2
31	Distinguish between absolute path and relative path	2
32	Are count (*) and count(<column-name>)the same functions? Why/why not?	2

33	What will be the output of following program:
	s="welcome2cs"
	n = len(s)
	m=""
	for i in range(0, n):
	if (s[i] >= 'a' and s[i] <= 'm'):
	m = m +s[i].upper()
	elif (s[i] >= 'n' and s[i] <= 'z'):
	m = m +s[i-1]
	elif (s[i].isupper()):
	m = m + s[i].lower()
	else:
	m = m +'&'
	print(m)
		2

<table>
<tr><td></td><td>Section-II</td><td></td></tr>
<tr><td>34</td><td>Write a function called checknumber (ph_num) that takes a phone number of 10 digits and two dashes, with dashes after the area code and the next three numbers.
For example, 018-333-1514 is a legal input.
Display if the phone number entered is in valid format or not and display if the phone number is valid or not (i.e. contains just the digits and dash at specific places.</td><td>3</td></tr>
<tr><td>35</td><td>A text file contains alphanumeric text (say num.txt).Write a function read_digit () that reads this text file and prints only the numbers or digits from the file.
Or
Write a function line_number () that reads a text file and display all the records in a file along with line/record number.</td><td>3</td></tr>
<tr><td>36</td><td>Write the outputs of the SQL queries (i) to (iii) based on the relations Retailers and Product given below:
Retailers:
<table><tr><th>C_ID</th><th>ClientName</th><th>City</th><th>P_ID</th></tr><tr><td>01</td><td>Cosmetic Shop</td><td>Lucknow</td><td>TP01</td></tr><tr><td>02</td><td>Total Health</td><td>Pune</td><td>FW05</td></tr><tr><td>03</td><td>Live Life</td><td>Lucknow</td><td>BS01</td></tr><tr><td>04</td><td>Pretty Woman</td><td>Lucknow</td><td>SH06</td></tr><tr><td>05</td><td>Dreams</td><td>Lucknow</td><td>TP01</td></tr></table>Product
<table><tr><td>P_ID</td><td>ProductName</td><td>Manufacturer</td><td>Price</td><td>Discount</td></tr><tr><td>TP01</td><td>Talcum Powder</td><td>LAK</td><td>40</td><td></td></tr><tr><td>FW05</td><td>Face Wash</td><td>ABC</td><td>45</td><td>5</td></tr><tr><td>BS01</td><td>Bath Soap</td><td>ABC</td><td>55</td><td></td></tr><tr><td>SH06</td><td>Shampoo</td><td>XYZ</td><td>120</td><td>10</td></tr><tr><td>FW06</td><td>Face Wash</td><td>XYZ</td><td>95</td><td></td></tr></table>i. SELECT count(discount) FROM Product ;
ii. SELECT Manufacturer ,Max(Price), Min(Price) FROM Product group by manufacturer;
iii.SELECT ProductName, Client.ClientName FROM Product, Retailers
WHERE Product.P_ID = Retailers.P_ID AND Retailers.City=”Pune”;</td><td>3</td></tr>
</table>

37	Write Score_add (Game) function in Python to add new score and name of the user into the list of score in a video game, considering it to act as a PUSH operation of the stack data structure. Also display the contents of the stack after PUSH operation. Or Write Score_del (Game) method in Python to remove a score, considering it to act as a POP operation of the stack data structure. Also return the value deleted from stack.	**3**
	Section III	
38	**Homeopathy Training Educational Institute** is setting up its centre in Hyderabad with four specialized departments for Pediatrics, Neurology and Orthopedics along with an administrative office in separate buildings. The physical distances between these department buildings and the number of computers to be installed in these departments and administrative office are given as follows. You, as a network expert, have to answer the queries as raised by them in (i) to (iv).  **Distance between different locations:** Administrative office to Orthopedics Unit — 55 Neurology Unit to Administrative office — 30 Orthopedics Unit to Neurology Unit — 70	

Pediatrics Unit to Neurology Unit Pediatrics Unit to Administrative office Pediatrics Unit to Orthopedics Unit	50 40 110	**5**

Number of Computers installed at various locations:-

Administrative office-140
Orthopedics Unit-40
Pediatrics Unit -50
Neurology Unit- 80

(i) Suggest the most suitable location to install the main server of this institution to get efficient connectivity.

(ii) Suggest the best cable layout for effective network connectivity of the building having server with all the other buildings.

(iii) Suggest the devices to be installed in each of these buildings for connecting computers installed within the building out of the following:

*Gateway * Modem *Switch

(iv) Suggest the topology of the network and network cable for efficiently connecting each computer installed in each of the buildings out of the following:

Topologies: Bus Topology, star topology

Network Cable:-Single pair Telephone cable, coaxial cable, Ethernet Cable

(v) Out of hub or switch network devices, which one will share the bandwidth among all the connected devices?

39

Consider the following tables Sender and Recipient. Write SQL commands for the statements (a) to (c) and give the outputs for SQL queries (d) to (e).

Sender

SenderID	SenderName	SenderAddress	Sendercity
ND01	Jeena	2, ABC Appls	Kochi
MU02	Sneha	12 Newtown	Pune
MU15	Anil	27/A, Park Street	Mumbai
ND50	Prasad	122-K,SDA	New Delhi

Receiver

RecID	SenderID	RecName	RecAddress	RecCity
KO05	ND01	Anik Dutta	5, Central Avenue	Kolkata
ND08	MU02	S.Virat	116, A-Vihar	New Delhi
MU19	ND01	H Singh	2A, Andheri East	Ahmedabad
MU32	MU15	P K Nathan	B5, C S Terminals	Mumbai
ND48	ND50	Anil Tripathi	13, BI D Mayur Vihar	New Delhi

(i)To display the RecID, Sendername, SenderAddress, RecName, RecAddress for every Receiver.

(ii)To display Receiver details in ascending order of RecName.

(iii)To display number of receiver from each city.

(iv)To display the details of senders whose sender city is 'Pune'.

(v) To change the name of receiver whose RecID is 'ND48' to ' S Rathore'.

5

40

A binary file "emp.dat" has structure [EID, Ename, designation, salary].

i. Write a user defined function CreateEmp () to input data for a record and create a file emp.dat.

ii. Write a function display () in Python to display the detail of all employees whose salary is more than 30000.

5

	OR i. A binary file “emp.DAT” has structure (EID, Ename, designation, salary). Write a function to add more records of employes in existing file emp.dat. ii. Write a function Show() in Python that would read detail of employee from file “emp.dat” and display the details of those employee whose designation is “Salesman”.	

CKS Code: 083-03

CKS Model Examination 2021

Std XII – Computer Science (083) MARKING SCHEME

Time : 3 hrs Marks : 70

Question No	Part - A	Mark s Allotted
1	= =	1
2	None object	1
3	DOV	1
4	Comma separated Values	1
5	dict_keys(['Anil', 'Aji'])	1
6	**[1,2,3,1,2,3,1,2,3]**	1
7	True	1
8	**b) a list of lines**	1
9	TypeError: can't multiply sequence by non-int of type 'str'	1
10	DML	1
11	2530	1
12	**SELECT * FROM Employee where grade is NULL;**	1
13	Alter Table R drop A	1
14	is_connected()	1
15	Coaxial	1
16	abps	1
17	MAC **addresses**	1
18	Snapdragon 888 Exynos 2100 Apple A14 Bionic	1
19	Cookies	1
20	Worldwide Interoperability for Microwave Access	1
21	PAN (**Personal Area Network**)	1
	Section-II **Both the case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark.**	
22	(a)No (b)Cardinality=7 degree=6 (c)update FURNITURE set **Itemname = "Dinning Table " Itemcode = 25 , Qty = 200** **Where N0=2004;** **(d)desc Furniture** **(e)delete from Furniture;**	4
23	(a)import csv	

	(b)with open('Tech.csv',newline='') as csvfile: **(c)d=csv.reader(csvfile,delimiter='')** **(d)if 'Delhi' in row:** **print(row)** **(e)import csv** **def Dept_location(location):** **with open('Tec.csv',newline='') as csvfile:** **d=csv.reader(csvfile,delimiter='')** **for r in d:** **if location in r:** **print(r)** **loc='Delhi'** **Dept_location(loc)**	4
	Part-B	
	Section -I	
24	**(a) 512** **(b) 2.0**	2
25	**Star topology** is a **topology** in which all devices are connected to a central hub. **Bus topology** is a **topology** where each device is connected to a single cable which is known as the backbone **Or** **protocol meaning is that it a set of mutually accepted and implemented rules at both ends of the communications channel for the proper exchange of information**. **Eg**:-**HTTP,SMTP,POP etc**	2
26	**(a) Wireless Local Loop** **(b) Domain Name System** **(c)** subscriber identity module or subscriber identification module **(d)** Internet Message Access Protocol	2
27	In PYTHON, module is a file consisting of Python code. A module can define functions, classes and variables. A module can also include runnable code. Functions of Math Module: ceil(x): Returns the smallest integer greater than or equal to x. floor(x): Returns the largest integer less than or equal to x. **or** **Positional Arguments: Arguments that are required to be passed to the function according to their position in the function header. If the sequence is changed, the result will be changes and if numbers of arguments are mismatched, error message will be shown.** **Example: def divi(a, b):** **print (a / b)** **>>> divi(10, 2)** **5.0** **>>> divi (20 / 10)** **2.0** **>>> divi (10)** **Error**	2

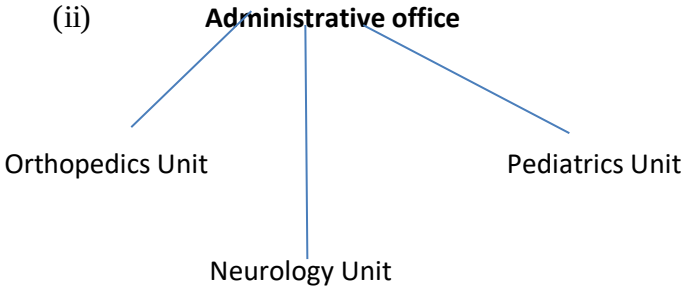
	Default Argument: An argument that is assigned a value in the function header itself during the function definition. When such function is called without such argument, this assigned value is used as default value and function does its processing with this value. **def divi(a, b = 1):** **print (a / b)** **>>> divi(10, 2)** **2**	
28	**for name in ['Shruthi','Priya','Pradeep','Vaishnav']:** **print (name)** **if name[0] == 'P' :** **break** **else:** **print('Over")** **print("Done")**	2
29	**(ii)&(iv)** **Maximum value in Lower=4** **Maximum value in upper=5**	2
30	**Equi-join :** It is a sql join where we use the equal sign as the comparison operator while specifying the join condition. In this, the common column from both the tables will appear twice in the output. **Natural join :** It is similar to Equi-join but only one of the identical columns exist in the output. Example : select * from student, course where course.cid = student.cid; (Equi-join) Select * from student natural join course where course.cid = student.cid; (Natural join)	2
31	An **absolute** or full **path** points to the same location **in a** file system, regardless of the current working directory. To do that, it must include the root directory. By contrast, a **relative path** starts from some given working directory, avoiding the need to provide the full **absolute path**	2
32	No, count(*) and count(<column name>) are not the same While count (*) counts and returns the number of records in a table, count (<column-name>) counts number of records where the mentioned column-name is not null.	2
33	sELCcME&Cc	2
	Section-II	

34	ph=input("Enter the phone number")
	def checknumber (ph_num) :
	if len(ph_num)!=12:
	return False
	if ph_num[3]!='-':
	return False
	ph_num=ph_num[:3]+ph_num[4:]
	if ph_num[6]!='-':
		3

<table>
<tr><td></td><td>
<pre>
        return False
    ph_num=ph_num[:6]+ph_num[7:]
    return ph_num.isdigit()
if checknumber (ph) :
    print('Valid')
else:
    print("Invalid")
</pre>
</td><td></td></tr>
<tr><td>35</td><td>
<pre>
F=open('num.txt','r')
for line in F:
     words=line.split()
      for i in words:
           for letter in i:
                if(letter.isdigit()):
                     print(letter)
          or
 Fh=open("Result.txt",'r')
 c=0
 Rec=''
 While True:
       Rec=Fh.readline()
              if rec!='':
                 c=c+1
                 print(c,rec)
 Fh.close()
</pre>
</td><td>3</td></tr>
<tr><td>36</td><td>(i)2
(ii)
<table>
<tr><td>Manufacturer</td><td>Min</td><td>max</td></tr>
<tr><td>LAK</td><td>40</td><td>40</td></tr>
<tr><td>ABC</td><td>45</td><td>55</td></tr>
<tr><td>XYZ</td><td>95</td><td>120</td></tr>
</table>
(iii)
<table>
<tr><td>ProductName</td><td>ClientName</td></tr>
<tr><td>Face Wash</td><td>Total Health</td></tr>
<tr><td></td><td></td></tr>
</table>
</td><td>3</td></tr>
<tr><td>37</td><td>
<pre>
Top = None

def Score_add(Game):
   Name = input("Enter name:"))
</pre>
</td><td>3</td></tr>
</table>

	Score = int(input("Enter the new score:"))
	
	Game.append ([Name,Score])
	Top = len(Game) - 1
	print("The stack is :", Game)
	OR
	def Score_del(Game):
	if Game == [ ]:
	print("Underflow")
	else:
	p = Game.pop( )
	
	if len(Game) == 0:
	Top = None
	else:
	Top = len(Game) – 1
	
	return p	

38	(i) **Administrative office** (ii)  (iii)switch (iv)Topology:-star Topology Network Cable:-Coaxial cable (v)Hub	5
39	**(i)** Select R.RecIC, S.Sendername, S.SenderAddress, R. RecName, RecAddress from Sender S, Receiver R where S.SenderID=R.SenderID ; (ii)SELECT * from Receiver ORDER By RecName; (iii)SELECT COUNT(*) from Receiver Group By RecCity; (iv)Select * from sender where Sendercity='Pune'; (v)update Receiver set RecName='S Rathore' where RecID=' ND48' 1 mark for each correct answer.	5

40	import pickle
	def CreateEmp():
	f1=open("emp.dat",'wb')
	eid=input("Enter E. Id")
	ename=input("Enter Name")
	designation=input("Enter Designation")
	salary=int(input("Enter Salary"))
	l=[eid,ename,designation,salary]
	pickle.dump(l,f1)
	f1.close()
	or
	import pickle
	def display():
	f2=open("emp.dat","rb")
	try:
	while True:
	rec=pickle.load(f2)
	if rec[3]>30000:
	print(rec[0],rec[1],rec[2],rec[3])
	except:
	f2.close()
	display()
	2 and ½ mark for each function
		5

CKS Code: 083-05

CENTRAL KERALA SAHODAYA

Model Examination 2021

COMPUTER SCIENCE

CLASS-XII

Time allowed: 3 Hrs. **Maximum Marks: 70**

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. Section – I is short answer questions, to be answered in one word or one line.
   b. Section – II has two case studies questions. Each case study has 4 case-based sub-parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which two question have internal options.
   b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
   c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Question No.	Part-A	Marks allocated
	Section-I **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.**	
1.	Find the valid identifier/s from the following: a) MySum b) true c) Last@sum d) 123Sum	**1**
2.	Given s1= “My Vidyalaya” . Write the output of print(s1[1:5])	**1**
3.	What will be the output of the following expression: print(24//6%3, 24//4//2, 20%3%2)	**1**
4.	What do you mean by Degree of a relation?	**1**

5.	Which of the following group functions ignore null values a. MAX b. COUNT c. SUM d. All of the above	**1**
6.	WAN Stand for _____	**1**
7.	if the following code is executed, what will be the output of the following code? s = “This is python language” print(s [8 : :])	**1**
8.	Arrange the memory size in ascending order Gigabyte / KiloByte / MegaByte / TeraByte / Byte	**1**
9.	Suppose list1 = [0.5 * x for x in range (0,4)], list1 is a) [0, 1, 2, 3] b) [0, 1, 2, 3, 4] c) [0.0, 0.5, 1.0, 1.5] d) [0.0, 0.5, 1.0, 1.5, 2.0]	**1**
10.	Suppose a tuple T1 is declared as T1 = (10, 20, 30, 40, 50) which of the following is incorrect? a) print(T[1]) b) T[2] = -29 c) print(max(T)) d) print(len(T))	**1**
11.	What will be output of following: d = {1 : “SUM”, 2 : “DIFF”, 3 : “PROD”} for i in d: print (i) a) 1 2 3 b) SUM DIFF PROD c) 1 SUM 2 DIFF 3 PROD d) 3 SUM 3 DIFF 3 PROD	**1**
12.	To read the next line from the file object fob, we can use: a) fob.read(2) b) fob.read( ) c) fob.readline( ) d) fob.readlines( )	**1**
13.	If column “salary” of table “EMP” contains the dataset {10000, 15000,	**1**

	25000,10000, 25000}, what will be the output of following SQL statement? SELECT SUM(DISTINCT SALARY) FROM EMP; a) 75000 b) 25000 c) 10000 d) 50000	
14.	What will be the output of: print (10>20)	**1**
15.	Special meaning words of Pythons, fixed for specific functionality are called ..... . 1. Identifiers 2. functions 3. Keywords 4. literals	**1**
16.	Find the errors in following code fragment : c = input("Enter your class") print ("Last year you were in class") c - 1	**1**
17.	Name the built-in mathematical function / method that is used to round the numbers	**1**
18.	Which of the following function returns a list datatype A) d=f.read() B) d=f.read(10) C) d=f.readline() D) d=f.readlines()	**1**
19.	A _____ function allows to write a single record into each row in CSV file.	**1**
20.	Write the full form of ARPANET.	**1**
21.	Which of the following is a fastest transmission media – • Ethernet Cable • Fiber optics Cable • Coaxial Cable	**1**
	Section-II **Both the Case study-based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark**	
22.	Modern Public School is maintaining fees records of students. The database administrator Aman decided that- • Name of the database -School • Name of the table – Fees • The attributes of Fees are as follows: Rollno - numeric Name – character of size 20 Class - character of size 20	

	Fees – Numeric Qtr – Numeric Answer any four from the following questions:	
	(i) Identify the attribute best suitable to be declared as a primary key	**1**
	(ii) Write the degree of the table.	**1**
	(iii) Insert the following data into the attributes Rollno, Name, Class, Fees and Qtr in fees table.	**1**
	(iv) Aman want to remove the table Fees table from the database School. Which command will he use from the following: a) DELETE FROM Fees; b) DROP TABLE Fees; c) DROP DATABASE Fees; d) DELETE Fees FROM Fees;	**1**
	(v) Now Aman wants to display the structure of the table Fees, i.e, name of the attributes and their respective data types that he has used in the table. Write the query to display the same.	**1**

23.	Anis of class 12 is writing a program to create a CSV file “mydata.csv” which will contain user name and password for some entries. He has written the following code. As a programmer, help him to successfully execute the given task.
	import _____ # Line 1
	def addCsvFile(UserName,PassWord): # to write / add data into the CSV file
	f=open(' mydata.csv','_____') # Line 2
	newFileWriter = csv.writer(f)
	newFileWriter.writerow([UserName,PassWord])
	f.close() #csv file reading code
	def readCsvFile(): # to read data from CSV file
	with open('mydata.csv','r') as newFile:
	newFileReader = csv._____(newFile) # Line 3
	for row in newFileReader:
	print (row[0],row[1])
	newFile._____ # Line 4
	addCsvFile(“Aman”,”123@456”)
	addCsvFile(“Anis”,”aru@nima”)	

	addCsvFile("Raju","myname@FRD") readCsvFile() #Line 5	
	(a) Give Name of the module he should import in Line 1.	**1**
	(b) In which mode, Aman should open the file to add data into the file	**1**
	(c) Fill in the blank in Line 3 to read the data from a csv file.	**1**
	(d) Fill in the blank in Line 4 to close the file.	**1**
	(e) Write the output he will obtain while executing Line 5.	**1**
	Part B	
	Section-I	
24.	Evaluate the following expression. a) 51+4-3**3//19-3 b) 17<19 or 30>18 and not 19==0	**2**
25.	What is the difference between hub and switch? Which is more preferable in a large network of computers and why? OR Differentiate between WAN and MAN. Also give an example of WAN.	**2**
26.	Expand the following terms: a. HTTP b. FLOSS c. PAN d. IRC	**2**
27.	What do you mean by keyword argument in python? Describe with example. OR What is scope of a variable in python and write basic scopes of variables in Python.	**2**

28.	Rewrite the following code in python after removing all syntax errors. Underline each correction done in the code:
	Def func(a):
	for i in (0,a):
	if i%2 =0:
	s=s+1
	else if i%5= =0
	m=m+2
	else:
	n=n+i
	print(s,m,n)
		2

	func(15)	
29.	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 maximum values that can be assigned to each of the variables Lower and Upper. import random AR=[20,30,40,50,60,70]; Lower =random.randint(1,4) Upper =random.randint(2,5) for K in range(Lower, Upper +1): print (AR[K],end="#") (i) 40# (ii) 40#50#60# (iii) 50# (iv) All	**2**
30.	What do you understand by Foreign Key in a table? Give a suitable example of Foreign Key from a table containing some meaningful data.	**2**
31.	Differentiate between fetchone() and fetchall() methods with suitable examples for each.	**2**
32.	Categorize the following as DML and DDL Commands: SELECT, INSERT, CREATE, UPDATE, ALTER, DELETE, DROP	**2**

33.	Find and write the output of the following Python code:
	`def Display(str):`
	`  m=""`
	`  for i in range(0,len(str)):`
	`  if(str[i].isupper()):`
	`  m=m+str[i].lower()`
	`  elif str[i].islower():`
	`  m=m+str[i].upper()`
	`  else:`
	`  if i%2==0:`
	`  m=m+str[i-1]`
	`  else:`
	`  m=m+"#"`
	`  print(m)`
	`Display('Fun@Python3.0')`
	Note : Using of any correct code giving the same result is also accepted.
		2

	Section- II	

34.	Write a function LShift(Arr,n) in Python, which accepts a list Arr of numbers 3 and n is a numeric value by which all elements of the list are shifted to left. Sample Input Data of the list Arr= [10,20,30,40,12,11], n=2 Output Arr = [30,40,12,11,10,20]	**3**
35.	Write a function count_is_as() in Python that counts the number of "is" and "as" words present in a text file "STORY.TXT". If the "STORY.TXT" contents are as follows: This is a Story of a Rabbit. He was as cunning as a Fox. The Story is very Interesting. The output of the function should be: Count of is/as in file: 4 **OR** Write a function SRCount() in Python, which should read each character of a text file STORY.TXT, should count and display the occurrence of alphabets S and R (including small cases s and r too). If the "STORY.TXT" contents are as follows: This is a Story of a Rabbit. He was as cunning as a Fox. The Story is very Interesting. The SRCount() function should display the output as: S or s : 9 R or r : 5	**3**
36.	Consider the following tables FACULTY and COURSES. Write SQL commands for the statements (i) to (iii). FACULTY F_ID | Fname | Lname | Hire_date | Salary 102 | Amit | Mishra | 12-10-1998 | 12000 103 | Nitin | Vyas | 24-12-1994 | 8000 104 | Rakshit | Soni | 18-5-2001 | 14000 105 | Rashmi | Malhotra | 11-9-2004 | 11000 COURSES	**3**

	C_ID F_ID Cname Fees
	C21 102 Grid Computing 40000
	C22 103 System Design 16000
	C23 104 Computer Security 8000
	C24 103 Human Biology 15000
	C25 102 Computer Network 20000
	C26 105 Visual Basic 6000
	
	i) Select F_ID, sum(Fees) from COURSES group by F_ID;
	
	ii) Select Max(Salary), Min(Salary) from Faculty;
	
	iii) Select Fname, Cname from FACULTY, COURSES where COURSES.F_ID=FACULTY.F_ID and COURSES.F_ID=102;	

37.	Write a function in Python PUSH(Arr), where Arr is a list of numbers. From this list push all numbers divisible by 5 into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message. **OR** Write a function in Python POP(Arr), where Arr is a stack implemented by a list of numbers. The function returns the value deleted from the stack.	**3**
	Section- III	
38.	Ayurveda Training Educational Institute is setting up its centre in Hyderabad with four specialised departments for Orthopedics, Neurology and Pediatrics along with an administrative office in separate buildings. The physical distances between these department buildings and the number of computers to be installed in these departments and administrative office are given as follows. Answer the queries as raised by them in (i) to (v).  Shortest distances between various locations in metres :	**5**

Administrative Office to Orthopedics Unit	55
Neurology Unit to Administrative Office	30
Orthopedics Unit to Neurology Unit	70
Pediatrics Unit to Neurology Unit	50
Pediatrics Unit to Administrative Office	40
Pediatrics Unit to Orthopedics Unit	110

Number of Computers installed at various locations are as follows :

Pediatrics Unit	40
Administrative Office	140
Neurology	50
Orthopedics Unit	80

a) Suggest the most suitable location to install the main server of this institution to get efficient connectivity.

b) Suggest the best cable layout for effective network connectivity of the building having server with all the other buildings.

c) Suggest the devices to be installed in each of these buildings for connecting computers installed within the building out of the following : Gateway, switch, Modem

d) Suggest the topology of the network and network cable for efficiently connecting each computer installed in each of the buildings out of the following :

Topologies: Bus Topology, Star Topology

Network Cable: Single Pair Telephone Cable, Coaxial Cable, Ethernet Cable.

e) The university is planning to connect its admission office in Delhi, which is more than 1250km from university. Which type of network out of LAN, MAN, or WAN will be formed? Justify your answer.

39. Write SQL commands for the queries (i) to (iii) and output for (iv) & (v) based on a table COMPANY and CUSTOMER . **5**

COMPANY

CID	NAME	CITY	PRODUCTNAME
111	SONY	DELHI	TV
222	NOKIA	MUMBAI	MOBILE
333	ONIDA	DELHI	TV
444	SONY	MUMBAI	MOBILE
555	BLACKBERRY	MADRAS	MOBILE
666	DELL	DELHI	LAPTOP

CUSTOMER

CUSTID	NAME	PRICE	QTY	CID
101	Rohan Sharma	70000	20	222
102	Deepak Kumar	50000	10	666
103	Mohan Kumar	30000	5	111
104	SahilBansal	35000	3	333
105	NehaSoni	25000	7	444
106	SonalAggarwal	20000	5	333
107	Arjun Singh	50000	15	666

(i) To display those company name which are having price less than 30000.

(ii) To display the name of the companies in reverse alphabetical order.

(iii) To increase the price by 1000 for those customer whose name starts with 'S'

(iv) SELECT PRODUCTNAME,CITY, PRICE FROM COMPANY,CUSTOMER WHERE COMPANY.CID=CUSTOMER.CID AND PRODUCTNAME="MOBILE";

(v) SELECT AVG(QTY) FROM CUSTOMER WHERE NAME LIKE "%r%";

40. A binary file "Book.dat" has structure [BookNo, Book_Name, Author, Price]. **5**

i. Write a user defined function CreateFile() to input data for a record and add to "Book.dat" .

ii. Write a function CountRec(Author) in Python which accepts the Author name as parameter and count and return number of books by the given Author are stored in the binary file "Book.dat"

OR

A binary file "STUDENT.DAT" has structure (admission_number, Name, Percentage). Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%

CKS Code: 083-05

CENTRAL KERALA SAHODAYA

Model Examination 2021

COMPUTER SCIENCE

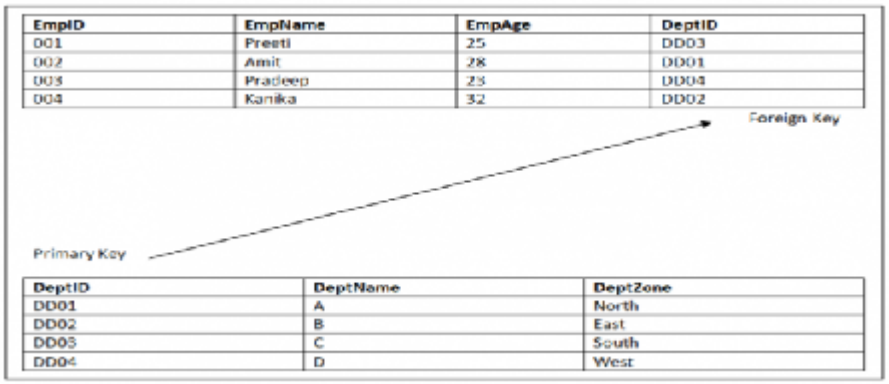
Answer Key

Time allowed: 3 Hrs. **Maximum Marks: 70**

Question No.	Part-A	Marks allocated
1.	MySum	1
2.	y Vi	1
3.	(1,3,0)	1
4.	Number of Attribute in a relation	1
5.	All of the above	1
6.	WIDE AREA NETWORK	1
7.	python language	1
8.	Byte / KiloByte / MegaByte / Gigabyte / TeraByte	1
9.	[0.0, 0.5, 1.0, 1.5]	1
10.	T[2] = -29	1
11.	1 2 3	1
12.	fob.readline( )	1
13.	50000	1
14.	False	1
15.	Keywords	1
16.	There are two errors in this code fragment: 1. c - 1 is outside the parenthesis of print function. It should be specified as one of the arguments of print function.	1

	2. c is a string as input function returns a string. With c - 1, we are trying to subtract a integer from a string which is an invalid operation in Python.	
17.	**round**	**1**
18.	**d) f.readlines()**	**1**
19.	**writerow()**	**1**
20.	**American Research Project Agency Network**	**1**
21.	**Fiber optics Cable**	**1**
	Section-II	
22.	**i)Primary Key – Rollno**	**1**
	ii)Degree of table= 5	**1**
	iii)Insert into fees values(101,'Aman','XII',5000);	**1**
	iv)DELETE FROM Fees	**1**
	v)Describe Fees	**1**
23.	**(a) Line 1 : csv**	**1**
	(b) Line 2 : a	**1**
	(c) Line 3 : reader	**1**
	(d) Line 4 : close()	**1**
	(e) Line 5 : Aman 123@456 **Anis aru@nima** **Raju myname@FRD**	**1**
	Part B	
	Section-I	

24.	**51** **True**	**2**
25.	**Hub forwards the message to every node connected and create a huge traffic in the network hence reduces efficiency whereas a Switch is also called intelligent hub since it redirects the received information/ packet to the intended node(s).** **In a large network a switch is preferred to reduce the unwanted traffic in the network which may also reduce the bandwidth and cause network congestion.** **1 mark for each** **OR** **WAN is also called as Wide Area Network. It is a network of computing devices crossing the limits of city, country or continent. It covers area of over hundreds or thousands of kilometres radius. For example: Network of ATMs, BANKs, National or International organization offices spread over a country or continent.** **MAN is also called as Metropolitan Area Network. It is a network of communicating devices within a city. It covers an area of few kilometres to few hundreds kilometres.** **For example: Network of schools, bank, and government offices within a city.** **Best example of WAN is the Internet.**	**2**
26.	**HTTP – Hyper Text Transfer Protocol** **FLOSS- Free Libre Open Source Software** **PAN- Personal Area Network** **IRC- Internet Relay Chat**	**2**
27.	**When you assign a value to the parameter (such as param=value) and pass to the function (like fn(param=value)), then it turns into a keyword argument.** **Or** **Ans. The program part(s) in which a particular piece of code or data value can be accessed is known as variable scope. In python broadly scopes can either be global scope or local scope.**	**2**
28.	**def func(a): #def** **s=m=n=0 #local variable** **for i in (0,a): #indentation and frange function missing** **if i%2==0:**	**2**

	s=s+i **elif i%5==0: #elif and colon** **m=m+i** **else:** **n=n+i** **print(s,m,n) #indentation** **func(15)** **2 marks for any four corrections.**	
29.	**All of these**	**2**
30.	**A Foreign Key creates a link between tables. It references the primary key in another table and links it.** **For example, the DeptID in the Employee table is a foreign key –**  	**2**
31.	**fetchall() fetches all the rows of a query result. An empty list is returned if there is no record 2 to fetch the cursor.** **fetchone() method returns one row or a single record at a time. It will return None if no more rows / records are available.** **Any example.**	**2**
32.	**DDL – Create, Alter, Drop** **DML- Select, Insert, Update, Delete**	**2**
33.	**OUTPUT : fUN#pYTHONn#.**	**2**
	Section- II	

34.

```
def LShift(Arr,n):
    L=len(Arr)
    for x in range(0,n):
        y=Arr[0]
        for i in range(0,L-1):
            Arr[i]=Arr[i+1]
        Arr[L-1]=y
    print(Arr)
```

3

35.

```
def count_is_as():
        num=0
        f=open("story.txt","rt")                ½ Mark
        N=f.read()                              ½ Mark
        M=N.split()                             ½ Mark
        for x in M:
            if x=="is" or x== "as":             ½ Mark
            print(x)
            num=num+1                           ½ Mark
        f.close()                               ½ Mark
        print("Count of Me/My in file:",num)
```

or

```
def SRCount():
        f=open("story.txt","r")                 ½ Mark
        S,R=0,0
        r=f.read()                              ½ Mark
        for x in r:                             ½ Mark
            if x[0]=="S" or x[0]=="s" :         ½ Mark
                S=S+1

            elif x[0]=="R" or x[0]=="r":        ½ Mark
                R=R+1
        f.close()                               ½ Mark
        print("S or s: ",S)
        print("R or r: ",R)
```

3

36.

i)

F_ID	Sum(Fees)
102	60000
103	31000
104	8000
105	6000

ii)

3

	<table><tr><th>Max(Salary)</th><th>Min(Salary)</th></tr><tr><td>12000</td><td>8000</td></tr></table> **iii)** <table><tr><th>Fname</th><th>Cname</th></tr><tr><td>Amit</td><td>Grid Computing</td></tr><tr><td>Amit</td><td>Computer Network</td></tr></table>	
37.	**def PUSH(Arr,value):** **s=[]** **for x in range(0,len(Arr)):** **if Arr[x]%5==0:** **s.append(Arr[x])** **if len(s)==0:** **print("Empty Stack")** **else:** **print(s)** **OR** **def popStack(st) : # If stack is empty** **if len(st)==0:** **print("Underflow")** **else:** **L = len(st)** **val=st[L-1]** **print(val)** **st.pop(L-1)**	**3**
	Section- III	
38.	**a) Administrative Office** **b) Administrative Office is connected to Orthopedic, Radiology, Pediatrics units directly in a Star Topology** **c) Switch**	**5**

	d) Topology: Star Topology **Network Cable: Ethernet Cable / Coaxial Cable** **e) It will form a WAN as the given distance is more than the range of LAN and MAN.**	
39.	**i) SELECT COMPANY.NAME FROM COMPANY,CUSTOMER** **WHERECOMPANY.CID = CUSTOMER.CID AND CUSTOMER.PRICE <30000;** **ii) SELECT NAME FROM COMPANY ORDER BY NAME DESC;** **iii) UPADE CUSTOMER** **SET PRICE = PRICE+1000** **WHERE NAME LIKE 'S%';** **iv)** **PRODUCTNAME CITY PRICE** **MOBILE MUMBAI 70000** **MOBILE MUMBAI 25000** **v) 12**	**5**

40.	`import pickle`
	`def createFile():`
	`  fobj=open("Book.dat","ab")`
	`  BookNo=int(input("Book Number : "))`
	`  Book_name=input("Name :")`
	`  Author = input("Author:" )`
	`  Price = int(input("Price : "))`
	`  rec=[BookNo,Book_Name,Author,Price]`
	`  pickle.dump(rec,fobj)`
	`  fobj.close()`
	
	`def CountRec(Author):`
	`  fobj=open("Book.dat","rb")`
	`  num = 0`
	`  try:`
	`  while True:`
	`  rec=pickle.load(fobj)`
	`  if Author==rec[2]:`
	`  num = num + 1`
	`  except:`
	`  fobj.close()`
	`  return num`
	
	or
		5

```
import pickle
def CountRec():
    fobj=open("STUDENT.DAT","rb")
    num = 0
    try:
        while True:
            rec=pickle.load(fobj)
            if rec[2] > 75:
                print(rec[0],rec[1],rec[2],sep="\t")
                num = num + 1
    except:
    fobj.close()
    return num
```

CENTRAL KERALA SAHODAYA

Model Examination 2021

CLASS XII - COMPUTER SCIENCE (083)

QP Code : 083-06

Maximum Marks: 70 **Time Allowed: 3 hours**

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. Section – I is short answer questions, to be answered in one word or one line.
   b. Section – II has two case studies questions. Each case study has 4 case-based sub- parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which two question have internal options.
   b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
   c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Question No.	Part-A	Marks allocated
	Section-I **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.**	
1	Write the type of tokens from the following: (a) **else** (b) **'True'**	1
2	Given the tuple T=(1,3,6,12) , write the output of print(T*3)	1
3	Which of the following commands can be used to read the entire contents of a file as a string using the file object <File> (a) File.readlines() (b) File.read(n) (c) File.read() (d) File.readline()	1
4	Which of the following is invalid identifier in Python: (a) Myfile (b) MYFILE1 (c) 1Myfile (d) _My1File	1

5	Suppose a string **mySubject** is declared as **mySubject ="Computer_Science"**, which of the following is incorrect? (a) print(mySubject.isspace()) (b) print(append('xii')) (c) print(mySubject.isdigit()) (d) print(mySubject.strip('Science'))	1

6.	What will be the output produced by following code?
	d={"name":"xyz","department":"computer","age":30,"sal":25000}
	value=d['sal']
	if value in d:
	print("This is a member in dictionary")
	else:
	print("This is not a member in dictionary")
		1

7	A List is declared as fruits=['apple','orange','banana','grapes'] What will be the value of fruits[0:len(fruits)-1:2]	1
8	The function pow(x,y,z) is evaluated as: (a) (x**y)**z (b) (x**y) / z (c) (x**y) % z (d) (x**y)*z	1
9	Kiran Varma is a working as Group Leader in PXR corporation. 28 employees are working under Kiran Varma, and they have to constantly report to Kiran Varma through email, and also Kiran Varma communicate to them through email. Now Kiran Varma wants a system through which emails are automatically downloaded to Outlook so that later on he will be able to read emails even if offline. Name the protocol which will help Kiran Varma in this scenario?	1
10	A person complaints that his/her debit/credit card is safe with him still some body has done shopping/ATM transaction on this card. Identify the type of cybercrime for these situations.	1
11	In SQL, name the clause that is used to remove duplicate rows from the result of SQL select statement.	1
12	Write any one aggregate function used in SQL.	1
13	In SQL, Which command is used to modify the records of the table?	1
14	Which of the following is a DML command? (a) ALTER (b) CREATE (c) DROP (d) INSERT	1
15	Rahavendran, is working as a Tech Support Engineer and sometimes he wants to work on Client's computer from his office. Name the traditional protocol used for this purpose?	1

<table>
<tr><td>16</td><td>Which is the incorrect form of declaration of dictionary?
(a) dict={(1,2):'one',2:'two','three':3}
(b) dict={1:'one',2:'two','three':3}
(c) dict={[1,2]:'one',2:'two','three':3}
(d) dict={'one':1,2:'two','three':3}</td><td>1</td></tr>
<tr><td>17</td><td>Ronald is working as a manager in XYZ Ltd. He wants to install CCTV Camera in every part of multistory Building of his office. Select the best wire media to connect each CCTV camera.
(a) Twisted Pair (b) Co-axial Cable (c) Fiber Optical (d)Electric Wire</td><td></td></tr>
<tr><td>18</td><td>If the following code is executed, what will be the output of the following code?
word="successor"
count=0
for letter in word :
if letter=="s" :
count=count+1
print(count)</td><td>1</td></tr>
<tr><td>19</td><td>Write the method to add the new item in Tuple.</td><td>1</td></tr>
<tr><td>20</td><td>Ravi Varma is in India and he is interested in communicating with her uncle in America. He wants to show one of her own designed gadgets to him and also wants to demonstrate its working without physically going America. Which protocol out of the following will be ideal for the same?
(a) FTP (b) NFC (c) VoIP (d) HTTP</td><td>1</td></tr>
<tr><td>21</td><td>Name the key used to uniquely identify row in a table and also does not accept NULL values?
(a) Unique Key (b) Foreign Key (c)Primary Key (d) All of above</td><td>1</td></tr>
<tr><td></td><td>Section-II
Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark</td><td></td></tr>
<tr><td>22</td><td>A store ourproduct is considering to maintain their inventory using SQL to store the data. As a database administer, Riswan has decided that:
• Name of the database - ourproduct
• Name of the table - PRODUCT
• The attributes of PRODUCT are as follows:

Pno - numeric
Name – character of size 20
Qty - numeric
Price – numeric
Table: PRODUCT
<table>
<tr><th>Pno</th><th>Name</th><th>Qty</th><th>Price</th></tr>
<tr><td>101</td><td>Pen</td><td>102</td><td>20</td></tr>
<tr><td>102</td><td>Pencil</td><td>201</td><td>25</td></tr>
<tr><td>103</td><td>Eraser</td><td>90</td><td>10</td></tr>
<tr><td>109</td><td>Sharpener</td><td>90</td><td>10</td></tr>
<tr><td>113</td><td>Clips</td><td>900</td><td>25</td></tr>
</table>
(a) Write the names of most appropriate columns, which can be considered as candidate keys.
(b) Insert the following data into the attributes PNo, Name, Qty and Price respectively in the given table PRODUCT.
Pno = 108, Name = “Shampoo”,Qty=100 and Price = 230</td><td>1x4=4</td></tr>
</table>

	(c) Now Riswan wants to display the structure of the table PRODUCT, i.e. name of the attributes and their respective data types that he has used in the table. Write the query to display the same. (d) Riswan want to remove the table PRODUCT from the datababase ourproduct. Which command will he use from the following: i) DELETE FROM PRODUCT; ii) DROP DATABASE ourproduct; iii) DROP TABLE PRODUCT; iv) DELETE store from ourproduct; e) Riswan wants to show all information of the table PRODUCT. Write the query to display the same.	

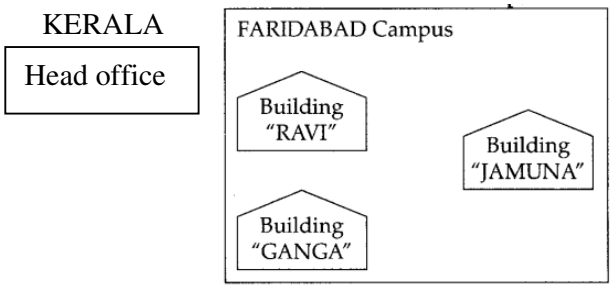
23	Keerthi Prasad is writing a program to create a CSV file "customer.csv" which will contain user name and password for some entries. She has written the following code. As a programmer, help him to successfully execute the given task.
	import_____ # Line 1
	def addCsvFile(CustomerName,PassWord): # to write data into the CSV file
	f=open(' customer.csv','___') # Line 2
	newFileWriter = csv.writer(f)
	newFileWriter.writerow([UserName,PassWord])
	f.close()
	
	#csv file reading code
	def readCsvFile() # to read data from CSV file
	with open(' customer.csv','r') as newFile:
	newFileReader = csv._____(newFile) # Line 3
	for row in newFileReader:
	print (row[0],row[1])
	newFile._____ # Line 4
	
	addCsvFile("Kumar", "234@567")
	addCsvFile("Mandeep","man@deep")
	addCsvFile("Floriya","myname@FL")
	readCsvFile()#Line 5
	
	(a) Name the module he should import in Line 1.
	(b) In which mode, Keerthi Prasad should open the file to add data into the file.
	(c) Fill in the blank in Line 3 to read the data from a csv file.
	(d) Fill in the blank in Line 4 to close the file.
	(e) Write the output he will obtain while executing Line 5.
		1x4=4

	Part – B	
	Section-I	
24	Evaluate the following expressions: (a) 100 < 5 and 12 > 2 or not 23 > 3 (b) 12+(3*4-6)/3	1x2=2
25	Expand the following terms: (a) SMTP (b) WLL (c) HTTP (d)XML	2

26	What is the basic difference between Trojan Horse and Computer worm? OR Write any two advantages of 4G over 3G Mobile Telecommunication Technologies in terms of speed and services.	2
27	Differentiate between actual parameter(s) and a formal parameter(s) with a suitable example for each. **OR** Explain the use of global key word used in a function with the help of a suitable example.	2
28	Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. number=(1,2,3,4,5,6,7,8,9,10) l=len(number) for i in range(0,l) IF i%4==0: print (i*2) Elseif i%5==0: print(i+4) else print(i+6)	2
29	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 maximum values that can be assigned to each of the variables start and stop. import random list=[120,130,140,150,160,170] start=random.randint(1,3) stop=random.randint(2,4) for K in range(start,stop+1): print(list[K],end="$") (a) 110$140$170$ (b) 130$140$150$ (c) 150$160$170$ (d) 140$150$170$	2
30	What do you understand by Alternate Keys in a table? Give a suitable example of Alternate Keys from a table containing some meaningful data.	2
31	Differentiate between *fetchone()* and *fetchall()* methods with suitable examples for each.	2
32	Write the difference between WHERE and HAVING clause.	2

33	Find and write the output of the following Python code:
	def fn(str):
	m=""
	for i in range(0,len(str)):
	if str[i].islower():
	m=m+str[i].upper()
	elif str[i].isupper():
	m=m+str[i].lower()
	elif str[i].isdigit():
	m=m+'dd'
	else:
	m=m+'ss'
	print(m)
	fn('Python3.@com')
		2

<table>
<tr><td></td><td>Section- II</td><td></td></tr>
<tr><td>34</td><td>Write a python program using function to accept a list as parameter and multiply all the odd elements by 2.</td><td>3</td></tr>
<tr><td>35</td><td>Write a function to read the content from the file “Data.txt” and print all the upper case word.
OR
Write a method in Python to read lines from a text file “diary.txt”,and display those lines, which are starting with the alphabet-K.</td><td>3</td></tr>
<tr><td>36</td><td>Write output for SQL queries (a) to (c), which are based on the table: STUDENT.
Table: STUDENT
<table>
<tr><th>RollNo</th><th>Name</th><th>Class</th><th>DOB</th><th>Gender</th><th>City</th><th>Marks</th></tr>
<tr><td>1</td><td>Nanda</td><td>X</td><td>06-06-1995</td><td>M</td><td>Agra</td><td>551</td></tr>
<tr><td>2</td><td>Saurabh</td><td>XII</td><td>07-05-1993</td><td>M</td><td>Mumbai</td><td>462</td></tr>
<tr><td>3</td><td>Sanal</td><td>XI</td><td>06-05-1994</td><td>F</td><td>Delhi</td><td>400</td></tr>
<tr><td>4</td><td>Trisla</td><td>XII</td><td>08-08-1995</td><td>F</td><td>Mumbai</td><td>450</td></tr>
<tr><td>5</td><td>Store</td><td>XII</td><td>08-10-1995</td><td>M</td><td>Delhi</td><td>369</td></tr>
<tr><td>6</td><td>Marisla</td><td>XI</td><td>12-12-1994</td><td>F</td><td>Dubai</td><td>250</td></tr>
<tr><td>7</td><td>Neha</td><td>X</td><td>08-12-1995</td><td>F</td><td>Moscow</td><td>377</td></tr>
<tr><td>8</td><td>Nishant</td><td>X</td><td>12-06-1995</td><td>M</td><td>Moscow</td><td>489</td></tr>
</table>
(a) SELECT COUNT(*), City FROM STUDENT GROUP BY CITY HAVING COUNT(*)>1;
(b) SELECT MAX(DOB),MIN(DOB) FROM STUDENT;
(c) SELECT NAME,GENDER FROM STUDENT WHERE CITY=“Delhi”;</td><td>1x3=3</td></tr>
<tr><td>37</td><td>Write a function in Python, INSERTQ(Arr,data) and DELETEQ(Arr) for performing insertion and deletion operations in a Queue . Arr is the list used for implementing queue and data is the value to be inserted.
OR
Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure.</td><td>3</td></tr>
<tr><td></td><td>Section-III</td><td></td></tr>
<tr><td>38</td><td>Himalaya Consultants are setting up a secured network for their office campus at Faridabad for their day to day office and web based activities. They are planning to have connectivity between 3 building and the head office situated in Kolkata.
Answer the questions (i) to (iv) after going through the building positions in the campus and other details, which are given below:</td><td>1x5=5</td></tr>
</table>



Number of Computers:

Building "RAVI"	25
Building "JAMUNA"	150
Building "GANGA"	51
Head Office	10

Distances between various buildings:

Building "RAVI" to Building "JAMUNA"	120 m
Building "RAVI" to Building "GANGA"	50 m
Building "GANGA" to Building "JAMUNA"	65 m
Faridabad Campus to Head Office	1460 km

(a) Suggest the most suitable place (i.e.,block) to house the server of this organization. Also give a reason to justify your suggested location.

(b) Suggest a cable layout of connections between the buildings inside the campus.

(c) The organization is planning to provide a high speed link with its head office situated in the KOLKATA using a wired connection. Which of the following cable will be most suitable for this job?

- Optical Fibre
- Co-axial Cable
- Ethernet Cable

(d) Suggest the placement of the following devices with justification:

- Repeater
- Switch

(e) The organization is planning to connect its Head Office in Kerala, which is more than 2600 km from campus. Which type of network out of LAN, MAN, or WAN will be formed? Justify your answer.

39 Consider the following tables CUSTOMERS and TRANSACTION. Write the SQL commands for the following: 1x5=5

TABLE: CUSTOMERS

CNO	CNAME	ADDRESS
201	Richard	Kerala
202	Surbhi	Banglore
203	Lissy	Chennai
204	Indhu	Kerala
205	Rojish	Delhi

TABLE: TRANSACTION

TRNO	CNO	AMOUNT	TYPE	DOT
T001	201	1500	Credit	2017-11-23
T002	203	2000	Debit	2017-05-12
T003	202	3000	Credit	2017-06-10
T004	203	12000	Credit	2017-09-12
T004	201	1000	Debit	2017-09-05

	(a) Write the degree and cardinality of the table CUSTOMERS. (b) Write SQL query to display details of all transactions of TYPE Credit from Table TRANSACTION. (c) To display the CNO and AMOUNT of all transactions done in the month September 2017 from the table TRANSACTION. (d) To display the last date of transaction (DOT) from the table TRANSACTION for customer having CNO as 203. (e) To display all CNO,CNAME and DOT (date of transaction) of those CUSTOMERS from tables CUSTOMERS and TRANSACTION who have done transactions more than or equal to 2000.	
40	A binary file student.dat has structure [stud_no,stud_name,stud_age]. (a) Write a user- defined function Createstud( ) to input data for a record and add it to the file. (b)Write a function Count() to take count of all students whose age is above 10 and return the same. **OR** A binary file Book.dat has a structure [bookno,book_name,author,price].Write a function in Python count_book() to count and return the no.of books whose price is between 100 and 500.	5

CENTRAL KERALA SAHODAYA

Model Examination 2021

CLASS XII - COMPUTER SCIENCE (083)

QP Code : 083-06

MARKING SCHEME

Maximum Marks: 70 **Time Allowed: 3 hours**

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. Section – I is short answer questions, to be answered in one word or one line.
   b. Section – II has two case studies questions. Each case study has 4 case-based sub-parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which two question have internal options.
   b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
   c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Question No.	**Part-A**	**Marks allocated**
	Section-I **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.**	
1	(a) **else:Keywords** (b) **'True':String Literals**	1
2	(1, 3, 6, 12, 1, 3, 6, 12, 1, 3, 6, 12)	1
3	(c) File.read()	1
4	(c) 1Myfile	1
5	(b) print(append('xii'))	1

6.	This is not a member in dictionary	1
7	['apple', 'banana']	1
8	(c) (x**y) % z	1
9	POP3: Post Office Protocol 3	1
10	Identity Theft	1
11	Distinct	1
12	AVG – calculates the average of **a** set of values. COUNT – counts rows in **a** specified table or view. MIN – gets the minimum value in **a** set of values.	1
13	UPDATE	1
14	(d) INSERT	1
15	Telnet	1
16	(c) dict={[1,2]:'one',2:'two','three':3}	1
17	(b) Co-axial Cable	
18	3	1
19	append()	1
20	(c) VoIP	1
21	(c)Primary Key	1
	Section-II **Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark**	
22	(a) Candidate key: Pno, Name (b) INSERT INTO PRODUCT (PNo, Name, Qty, Price) VALUES (108, "Shampoo", 100, 230); (c) DESCRIBE PRODUCT OR DESC PRODUCT (d) iii) DROP TABLE PRODUCT; (e) SELECT *FROM PRODUCT;	1x4=4
23	(a) csv (b) "a" (c) reader (d) close() (e) Kumar 234@567 Mandeep man@deep Floriya myname@FL	1x4=4
	Part – B	
	Section-I	
24	(a) False (b) 14	1x2=2
25	(a) SMTP - Simple Mail Transfer Protocol (b) WLL-Wireless in Local Loop (c) HTTP-Hypertext Markup Language (d)XML- eXtensible Markup Language	2
26	Worms spread from computer to computer, but unlike a virus, it has the capability to travel without any help from a person. A Trojan horse is not a virus. It is a destructive program that looks as a genuine application.	2

	Unlike viruses, Trojan horses do not replicate themselves but they can be just as destructive. OR 4G gives a speed of approximately 100 Mbps whereas 3G gives a speed of approximately 2Mbps. 4G takes less time than 3G in call establishment.	

27	The list of identifiers used in a function call is called actual parameter(s) whereas the list of parameters used in the function definition is called formal parameter(s).
	Actual parameter may be value / variable or expression.
	def area(side): # line 1
	return side*side
	print(area(10)) # line 2
	In line 1, side is the formal parameter and in line 2, while invoking area() function, the value 5 is the actual parameter. A formal parameter, i.e. a parameter, is in the function definition. An actual parameter, i.e. an argument, is in a function call.
	OR
	In Python, global keyword allows the programmer to modify the variable outside the current scope. It is used to create a global variable and make changes to the variable in local context. A variable declared inside a function is by default local and a variable declared outside the function is global by default. The keyword global is written inside the function to use its global value. Outside the function, global keyword has no effect.
	Example:
	num = 10 # global variable
	def mul():
	global num
	num = num * 2 # global value of num is multiplied by 2
	print("Inside mul():", num)
	mul()
	num=25
	print("In main:", num)
	Output
	Inside mul(): 20
	In main: 25
		2

28	number=(1,2,3,4,5,6,7,8,9,10)
	l=len(number)
	for i in range(0,number): #error1
	if i%4==0: #error2
	print (i*2)
	elif i%5==0: #error3
	print(i+4)
	else: #error4
		2

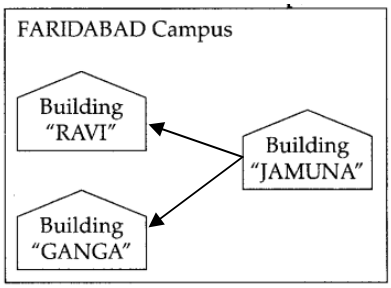
<table>
<tr><td></td><td>print(i+6)</td><td></td></tr>
<tr><td>29</td><td>(b) 130$140$150$</td><td>2</td></tr>
<tr><td>30</td><td>A candidate key that is not selected as a primary key is called an Alternate Key.
Table: PRODUCT
<table><tr><th>Pno</th><th>Name</th><th>Qty</th></tr><tr><td>101</td><td>Pen</td><td>102</td></tr><tr><td>102</td><td>Pencil</td><td>201</td></tr><tr><td>103</td><td>Eraser</td><td>90</td></tr><tr><td>109</td><td>Sharpener</td><td>90</td></tr><tr><td>113</td><td>Clips</td><td>900</td></tr></table>There are two candidate keys in the above table: Pno, Name. Database administrator can choose any of the above key as primary key. Let's say Pno is chosen as primary key. Since we have selected Pno primary key, the remaining key Name would be called alternative or secondary key.</td><td>2</td></tr>
<tr><td>31</td><td>fetchall(): fetches all the rows of a query result. An empty list is returned if there is no record to fetch the cursor.
fetchone(): method returns one row or a single record at a time. It will return None if no more rows / records are available.
Example : fetchone()
eno = int(input("Enter employee Number :"))
query="select * from emp where empno={}".format(eno)
mycur.execute(query)
row = mycur.fetchone()
if row!=None:
print("Name :",row[1])
print("Department :",row[2])
print("Salary :",row[3])
else:
print("\nEmployee Number not found")
Example: fetchall()
query="select * from emp"
mycur.execute(query)
rows = mycur.fetchall():
for row in rows:
print("Name :",row[1])
print("Department :",row[2])
print("Salary :",row[3])</td><td>2</td></tr>
<tr><td>32</td><td>WHERE clause is used for selecting the rows based on the condition applied on rows. While HAVING clauses used to select the rows from the data given by group by group clause in SQL.</td><td>2</td></tr>
<tr><td>33</td><td>pYTHONddssssCOM</td><td>2</td></tr>
<tr><td></td><td>Section- II</td><td></td></tr>
<tr><td>34</td><td>def multiplyList(myList):
for i in range(0,len(myList)):
if myList[i]%2==1:
myList[i]=myList[i]*2
myList=eval(input("Enter the list:"))
print("New List in function call",myList)
print("List before the function call",myList)</td><td>3</td></tr>
</table>

	multiplyList(myList) print("List after the function call",myList)	

35	def upperprint():
	  f=open("Data.txt","r")
	  x=f.read()
	  w=x.split()
	  for ch in w:
	  if ch[0].isupper():
	  print(ch, end=" ")
	upperprint()
	OR
	def Readline():
	  i=open("dairy.txt","r")
	  x=i.readline()
	  while (x):
	  if x[0]=="k" or x[0]=="K":
	  print(x)
	  x=i.readline()
	  i.close()
	Readline()
		3

36	(a) COUNT(*) City 2 Mumbai 2 Delhi 2 Moscow (b) MAX(DOB) MIN(DOB) 08-12-1995 07-05-1993 (c) NAME GENDER Sanal F Store M	1x3=3

37	def INSERTQ(Arr):
	  data=int(input("enter data to be inserted: "))
	  Arr.append(data)
	  print(Arr)
	def DELETEQ(Arr):
	  if Arr==[]:
	  print("Queue empty")
	  else:
	  print ("Deleted element is: ",Arr[0])
	  del(Arr[0])
	OR
	def MakePush(Arr):
	  a=int(input("enter the element: "))
	  Arr.append(a)
	def MakePop(Arr):
	  if Arr==[]:
		3

	print("Stack empty") else: print ("Deleted element:",Arr.pop())	
	Section-III	
38	(a) The most suitable place to install server is building "JAMUNA" because this building have maximum computer which reduce the communication delay. (b) Cable layout. (Star topology).  (c) Optical Fibre (d) **Switch:** Switch is needed to be placed in each building to interconnect the computers within that building. **Repeater:** Since the cabling distance between buildings GANGA and JAMUNA are quite large, so a repeater each, would ideally be needed along their path to avoid loss of signals during the course of data flow in these routes. (e) WAN because LAN,MAN cannot cover 2600 km.	1x5=5
39	(a) Degree:3 and Cardinality:5 (b) SELECT *FROM TRANSACTION WHERE TYPE="Credit"; (c) SELECT CNO , AMOUNT FROM TRANSACTION WHERE DOT LIKE '2017-09-%'; (d) SELECT DOT FROM TRANSACTION WHERE CNO=203; (e) SELECT C.CNO,C.CNAME,C.DOT FROM CUSTOMERS WHERE AMOUNT>= 2000;	1x5=5

40	import pickle
	def Createstud():
	fobj=open("student.dat","ab")
	student_no=int(input("Student Number : "))
	student _name=input("Name :")
	student_age=int(input("Age : "))
	rec=[stud_no,student_name,age]
	pickle.dump(rec,fobj)
	fobj.close()
	def Count():
	fobj=open("student.dat","rb")
	nu= 0
	try:
	while True:
	rec=pickle.load(fobj)
	if rec[2]>10:
	num = num + 1
	except:
		5

```
        fobj.close()
        return num
```

0R

```
import pickle
def Count_book ():
    fobj=open("Book.dat","rb")
    num = 0
    try:
        while True:
            rec=pickle.load(fobj)
            if rec[3] >100 and rec[3]<500:
                print(rec[0],rec[1],rec[2],sep="\t")
                num = num + 1
    except:
        fobj.close()
    return num
```

CKS Code: 083-07

CENTRAL KERALA SAHODAYA
MODAL EXAMINATION 2021
COMPUTER SCIENCE (083)
Class: XII

Time allowed: 3hrs **Max.Marks: 70**

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. Section – I is short answer questions, to be answered in one word or one line.
   b. Section – II has two case studies questions. One case study has 4 case-based sub-parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which two question have internal options.
   b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
   c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Part A

Section I Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.

1 Find the invalid identifier(s) from the following 1
(a) MyName (b) True (c) 2ndName (d) My_Name

2 Identify the device that converts data from digital bit stream into an analog signal and vice versa. 1

3 Name 2 Single Row functions of SQL 1

4 Write mysql command to open the database name 'COMPANY' 1

5 A column or a group of columns which can be used as the primary key of relation is called a _____ 1
(i) Primary Key (ii) Candidate Key (iii) Alternate key (iv) Foreign Key

6 If the following code is executed, what will be the output of the following code? 1

```
n="ABC PUBLIC SCHOOL"
print(n[4:8].upper())
```

7 If the following code is executed, what will be the output of the following code? 1

```
n="CBSE BOARD EXAM"
```

8 Name the built-in mathematical function/method that is used to return an absolute value of a number. 1

9 When file is opened as "with open" then file is _____ automatically 1

(i) read (ii) write (iii) close (iv) open

10 What is meant by NULL value in MYSQL? 1

11 Mode used for reading from pickle file is 1

(i) rb (ii) r (iii) br (iv) read

12 Help Manish in identifying the incorrect variable name from the following: 1

(i) unit@price (ii) fee (iii) userid (iv) avg marks

13 A tuple is declared as T = (2,5,6,9,8) What will be the value of max(T) 1

14 If the following code is executed, what will be the output of the following code? 1

```
n="CBSE BOARD EXAM"
print(n[-4:])
```

15 Give the output: 1

```
for i in range(1,5):
    print(i*i,end=" ")
```

16 The number of rows in the relation is called _____ 1

(i) Attributes (ii) Tuple

(iii) Degree (iv) Cardinality

17 Define Intranet 1

18 Which out of the following comes under Cyber Crime? 1

(i) Operating someone's Internet banking account, without his knowledge.

(ii) Stealing a keyboard from someone's computer.

(iii) Working on someone's computer Without his/her permission .

1

19 Give the output

```
lt=[1,0,4,5,8,2,3,10,5]
del lt[1]
print(lt)
```

1

20 Write a statement in Python to open a text file MARKER.TXT so that existing content can be read from it.

1

21 A teacher provides "http://www.XtSchool.com/default.aspx" to his/her students to identify the URL & domain name.

Part A

Section II Both the Case study-based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark

1x4 =4

22 In a database there is a table 'CD' as shown below :

Table : CD

CODE	TITLE	DURATION	SINGER	CATEGORY
101	Sufi Songs	50 min	Zakir Faiz	12
102	Eureka	45 min	Shyama Mukherjee	12
103	Nagmey	23 min	Sonvi Kumar	77
104	Dosti	35 min	Bobby	1

(i) Name the Primary key in "CD" table.
(ii) Write the Data type of column DURATION in "CD" table.
(iii) Write the Cardinality and Degree of "CD"4 table.
(iv) Write SQL statement to change the name of Singer "Sonvi Kumar" to "Sonvi Mehra" in all the places wherever it occurs in CD table.
(v) Write MySQL statement to add a column "Music_Director" which datetype Varchar and size as 30 in the table "CD".

1x4 =4

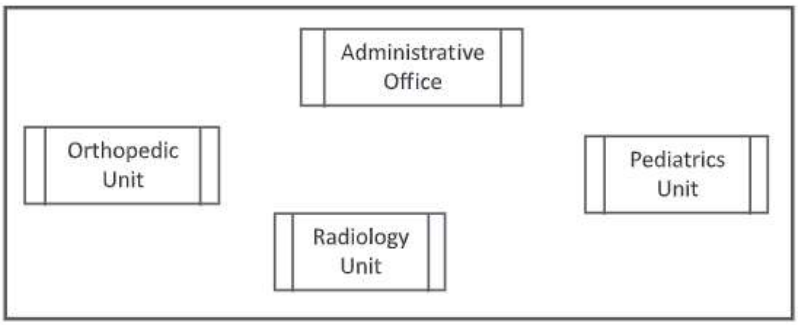
23 Ayurveda Training Educational Institute is setting up its centre in Hyderabad with four specialised departments for Orthopedics, Neurology and Pediatrics along with an administrative office in separate buildings. The physical distances between these department buildings and the number of computers to be installed in these departments and administrative office are given as follows. You as a network expert have to answer the queries as raised by them in (i) to (iv).

Shortest distances between various locations in metres:

Administrative Office to Orthopedics Unit	55
Neurology Unit to Administrative Office	30
Orthopedics Unit to Neurology Unit	70
Pediatrics Unit to Neurology Unit	50
Pediatrics Unit to Administrative Office	40
Pediatrics Unit to Orthopedics Unit	110

Number of Computers installed at the various locations are as follows:

Pediatrics Unit	40
Administrative Office	140
Neurology	50
Orthopedics Unit	80



(i) Suggest the most suitable location to install the main server of this institution to get efficient connectivity.

(ii) Suggest the best cable layout for effective network connectivity of the building having server with all the other buildings.

(iii) Suggest the devices to be installed in each of these buildings for connecting computers installed within the building out of the following: • Gateway • Modem • Switch

(iv) Suggest the topology of the network and network cable for efficiently connecting each computer installed in each of the buildings out of the following:
Topologies: Bus topology, Star Topology
Network Cable: Single Pair Telephone Cable, Coaxial Cable, Ethernet Cable

Part B (Section I)

24 Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. 2

```
for Name in [Ramesh,Suraj,Priya]
  IF Name[0]='S':
    print(Name)
```

25 Observe the following program and answer the questions that follow: 2

```
import random
X=3
N=random.randint(1,X)
for i in range(N):
    print (i,"#",i+1)
```

(a) What is the minimum and maximum number of times the loop will execute?

(b) Find out, which line of output(s) out of (i) to (iv) will not be expected from the program?

(i) 0#1 (ii) 1#2 (iii) 2#3 (iv) 3#4

26 Expand the following terms: 2

(a) SMTP (b) XML (c) LAN (d) IPR

27 Differentiate between actual parameter(s) and a formal parameter(s) with a suitable example for each. 2

OR

Explain the use of global key word used in a function with the help of a suitable example.

28 Differentiate between fetchone() and fetchall() methods with suitable examples for each. 2

29 Write the full forms of DDL and DML. Write any two commands of DML in SQL. 2

30 Illustrate the layout for connecting 5 computers in a Bus and a Star topology of Networks. 2

31 Ms. Raveena Sen is an IT expert and a freelancer. She recently used her skills to access the Admin password for the network server of Super Dooper Technology Ltd. and provided confidential data of the organization to its CEO, informing him about the vulnerability of their network security. Out of the following options (i) to (iv), which one most appropriately defines Ms Sen? Justify the reason for your chosen option: 2

(i) Hacker (ii) Cracker (iii) Operator (iv) Network Admin

32 Which protocol helps us to browse through web pages using internet browsers? Name any one interne browser. 2

33 Write a method in python to read the content from a text file story.txt line by line and display the same on screen. 2

Part B (Section II)

34 Find and write the output of the following python code: 3

```
def Change(P ,Q=30):
    P=P+Q
    Q=P-Q
     print( P,"#",Q)
     return (P)
R=150
S=100
R=Change(R,S)
print(R,"#",S)
S=Change(S)
```

35 Write a function in python to assign a new object in a csv file "customer.csv". Assume the csv file is containing following fields. 3

custno Name

3

36 Write a function in Python that counts the number of "Me" or "My" words present in a text file "STORY.TXT".

If the "STORY.TXT" contents are as follows:

My first book was Me and

My Family. It gave me chance to be Known to the world.

The output of the function should be:

Count of Me/My in file: 4

OR

Write a function AMCount() in Python, which should read each character of a text file STORY.TXT, should count and display the occurence of alphabets A and M (including small cases a and m too).

Example:

If the file content is as follows:

Updated information

As simplified by official websites.

The EUCount() function should display the output as:

A or a:4

M or m :2

3

37 Write PUSH (Books) and POP (Books) methods in python to add Books and remove Books considering them to act as Push and Pop operations of Stack.

OR

Write AddClient(Client) and DeleteClient(Client) methods in python to add a new Client and delete a Client from a List of Client Names, considering them to act as insert and delete operations of the queue data structure.

Part B (Section III)

5

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

Table: Book

Code	BNAME	TYPE
F101	The priest	Fiction
L102	German easy	Literature
C101	Tarzan in the lost world	Comic
F102	Untold Story	Fiction
C102	War Heroes	Comic

Table: Member

MNO	MNANE	CODE	ISSUEDATE
M101	RAGHAV SINHA	L102	2016-10-13
M103	SARTHAK JOHN	F102	2017-02-23
M102	ANISHA KHAN	C101	2016-06-12

(i) To display all details from table MEMBER in descending order of ISSUEDATE.

(ii) To display the BNO and BNAME of all Fiction Type books from the table BOOK

(iii) To display the TYPE and number of books in each TYPE from the table BOOK

(iv) To display all MNAME and ISSUEDATE of those members from table MEMBER who have books issued (i.e ISSUEDATE) in the year 2017.

(v) SELECT MAX(ISSUEDATE) FROM MEMBER;

5

39 A binary file "Book.dat" has structure [BookNo, Book_Name, Author, Price].

(i) Write a user defined function CreateFile() to input data for a record and add to Book.dat .

(ii) Write a function CountRec(Author) in Python which accepts the Author name as parameter and count and return number of books by the given Author are stored in the binary file "Book.dat"

OR

A binary file "STUDENT.DAT" has structure (admission_number, Name, Percentage). Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%

5

40 A Binary file "CINEMA.DAT" has structure (MNO,MNAME,MTYPE).Write a method Searchtype(mt) whi accept mytpe as parameter and display all the content in a Binary file CINEMA.DAT, where MTYPE is matchi with the given value mt.

CKS Code: 083-07

CENTRAL KERALA SAHODAYA

Modal Examination 2021

MARKING SCHEME

COMPUTER SCIENCE (083)

Class: XII

Time allowed: 3hrs **Max.Marks: 70**

Part A

Section I Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.

1 mark for correct answer 1

1

(b)True (c) 2ndName

1 mark for correct answer 1

2

Modem

1 mark for correct answer 1

3

TRIM(), ROUND()

1 mark for correct answer 1

4

use COMPANY

1 mark for correct answer 1

5

Candidate Key

1 mark for correct answer 1

6

PUBL

1 mark for correct answer 1

7

BOARD EXAM

1 mark for correct answer 1

8

abs()

1 mark for correct answer 1

9

(iii)

1 mark for correct answer 1

10

NULL means Unknown/No value/ Empty

1 mark for correct answer 1

11

(i)

1 mark for correct answer 1

12

(i) unit@price (iv) avg marks

1 mark for correct answer 1

13

9

1 mark for correct answer 1

14

EXAM

1 mark for correct answer 1

15

1 4 9 16

1 mark for correct answer 1

16

Cardinality

1 mark for correct answer 1

17

Intranet is a private network maintained by an organization for the use of its own employees, members or others who are explicity permitted access.

1 mark for correct answer 1

18

(i), (iii)

1 mark for correct answer 1

19

[1, 4, 5, 8, 2, 3, 10, 5]

1/2 marks for each correct answer 1

20

```
file= open("MARKER.TXT","r")
```

OR

```
file= open("MARKER.TXT","r+")
```

1/2 marks for each correct answer 1

21

URL: http://www.XtSchool.com/default.aspx
Domain name: XtSchool.com

Part A

Section II Both the Case study-based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark

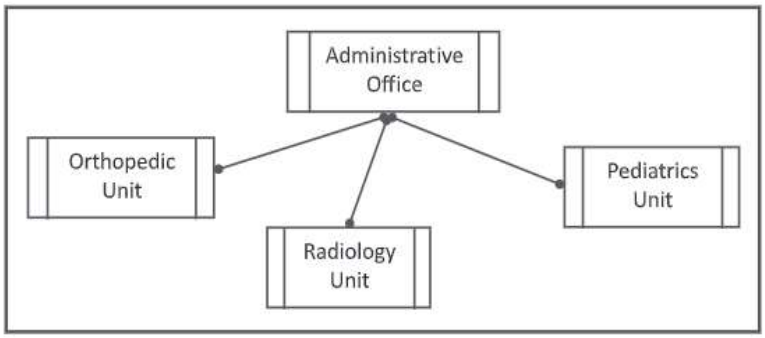
1 mark for each correct answer 1x4 =4

22

(i) CODE
(ii) char/varchar
(iii) Cardinality:
Degree:5
(iv) update CD set singer="Sonvi Mehra" where singer="Sonvi Kumar"
(v) Alter table CD add Music_Director varchar(30)

23 1 mark for each correct answer 4

(i) Administrative Office
(ii)



OR

Administrative Office is connected to Orthopedic, Radiology, Pediatrics units directly in a Star Topology

(iii) Switch
(iv) Topology: Star Topology
Network Cable: Ethernet Cable / Coaxial Cable

Part B (Section I)

2

24

```
for Name in ["Ramesh","Suraj","Priya"]:
    if Name[0]=='S':
        print(Name)
```

1 mark for each correct answer 2

25

(a) Minimum Number = 1
Maximum Number = 3

1/2 marks for each correct answer 2

26

(a) SMTP - Simple Mail Transfer Protocol
(b) XML - eXtensible Markup Language
(c) LAN – Local Area Network
(d) IPR – Intellectual Property Rights

2

27 The list of identifiers used in a function call is called actual parameter(s) whereas the list of parameters used in the function definition is called formal parameter(s).
Actual parameter may be value / variable or expression.
Formal parameter is an identifier.
Example:

```
def area(side):                    # line 1
    return side*side;
print(area(5))                     # line 2
```

In line 1, side is the formal parameter and in line 2, while invoking area() function, the value 5 is the actual parameter.
A formal parameter, i.e. a parameter, is in the function definition. An actual parameter, i.e. an argument, is in a function call.

1 mark for each correct answer 2

28

Fetchall() fetches all the rows of a query result. An empty list is returned if there is no record to fetch the curso fetchone() method returns one row or a single record at a time. It will return None if no more rows / records ar available. Any example.

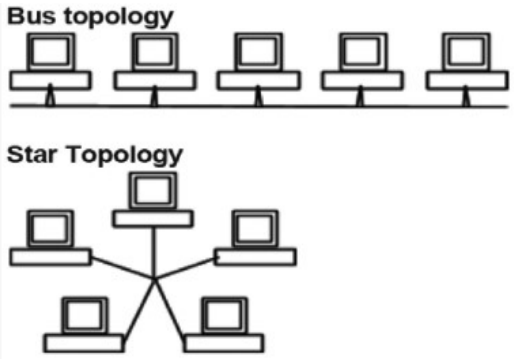
1 mark for each correct answer 2

29

DDL – Data Definition Language
DML – Data Manipulation Language
Any two out of INSERT, DELETE, UPDATE

1 mark for each correct answer 2

30



1 mark for (i),1 mark for defenition 2

31

(i) Hacker
A Hacker is a person who breaks into the network of an organization without any malicious intent.

1 mark for each correct answer 2

32

Protocol: HTTP OR TCP/IP
Browser: Chrome OR Internet Explorer OR Firefox OR OPERA OR SAFARI

2

33

```
def read_file():
    inFile = open('story.txt', 'r')
    for line in inFile:
        print (line,end="")
    inFile.close()
```

```
def read_file():
    inFile = open('story.txt', 'r')
    i=inFile.readlines()
    for line in i:
        print (line,end="")
    inFile.close()
```

```
def read_file():
    with open("story.txt","r") as inFile:
     i=inFile.readline()
     while i:
         print(i,end="")
         i=inFile.readline()
```

Part B (Section II)

1 mark for each correct output 3

34

```
250 # 150
250 # 100
130 # 100
```

1 mark for using def 3

35 1 mark for using open()

1 mark for correct usage of csv_writer

```
def add():
    with open("customer.csv", 'w', newline='')as csv:
        csv_writer=csv.writer(csv)
        c=int(input("enter custno :"))
        n=input("enter name :")
        rec=[c,n]
        csv_writer.writerow(rec)
```

3

36

```
def displayMeMy():
    num=0
    f=open("story.txt","rt")
    N=f.read()
    M=N.split()
    for x in M:
        if x=="Me" or x== "My":
            print(x)
            num=num+1
    f.close()
    print("Count of Me/My in file:",num)
```

OR

```
def count_A_M():
    f=open("story.txt","r")
    A,M=0,0
    r=f.read()
    for x in r:
        if x[0]=="A" or x[0]=="a" :
            A=A+1
        elif x[0]=="M" or x[0]=="m":
            M=M+1
    f.close()
```

```
print("A or a: ",A)
print("M or m: ",M)
```

Note: Using of any correct code giving the same result is also accepted.

37

1 mark for using def
1 mark for correct use of pop()
1 mark for correct concept

3

```
def push(Books):
        Stack.append(Books)
        print ('Element:',Book,'inserted successfully')
def pop():
 if Stack == []:
    print('Stack is empty!')
else:
      print('Deleted element is',Stack.pop())
```

OR

```
def AddClient(Client):
     C=raw_input("Client name: ")
     Client.append(C)
def DeleteClient(Client):
      if  Client= =[]:
          print ("Queue empty" )
     else:
          print (Client[0],"Deleted")
del Client[0]          # OR Client.pop(0)
```

Part B (Section III)

38

1 mark for each correct query

5

(i) SELECT * FROM MEMBER ORDER BY ISSUEDATE DESC;
(ii) SELECT BNO,BNAME FROM BOOK WHERE TYPE='Fiction';
(iii) SELECT COUNT(*),TYPE FROM BOOK GROUP BY TYPE;
(iv) SELECT MNAME, ISSUEDATE FROM MEMBER WHERE ISSUEDATE>='2017-01-01' AND ISSUEDATE<='2017-12-31';

OR

SELECT MNAME, ISSUEDATE FROM MEMBER WHERE ISSUEDATE BETWEEN '2017-01-01' AND '2017-12-31';

(v) MAX(ISSUEDATE)
2017-02-23

5

39 (Using of any correct code giving the same result is also accepted.)

```
import pickle
def createFile():
    fobj=open("Book.dat","ab")
     BookNo=int(input("Book Number : "))
     Book_name=input("Name :")
     Author = input("Author: ")
     Price = int(input("Price : "))
     rec=[BookNo,Book_Name,Author,Price]
     pickle.dump(rec,fobj)
     fobj.close()
 def CountRec(Author):
     fobj=open("Book.dat","rb")
     num = 0
     try:
          while True:
               rec=pickle.load(fobj)
               if Author==rec[2]:
                    num = num + 1
     except:
          fobj.close()
          return num
```

OR

```
import pickle
def CountRec():
     fobj=open("STUDENT.DAT","rb")
     num = 0
     try:
          while True:
               rec=pickle.load(fobj)
               if rec[2] > 75:
                    print(rec[0],rec[1],rec[2],sep="\t")
                    num = num + 1
     except:
          fobj.close()
     return num
```

5

40

```
def Searchtype(mt):
    file=open('CINEMA.DAT','rb')
       while True:
          M=pickle.load(file)
          if M["MTYPE"]==mt:
               print(M[0],M[1],M[2],sep="\t")
          except EOFError:
               pass
                    file.close()
```