Part – A (10 x 1 = 10 Marks)						
Q. No	**Question**	**Marks**	**BL**	**CO**	**PO**	**P.I**
1	The idea of imperative programming paradigm imitates A. Graphical User Interface programming B. Symbolic programming C. Automata programming **D. Object oriented programming**	**1**	**2**	**2**	**2**	**3.8.2**
2	Which of the following is false regarding dependent types? A. They allow us to write programs and know they are correct before running them. **B. They allow us to write programs and know they are correct only after running them**. C. You can specify types that can check the value of your variables at compile time. D. Its definition depends on a value.	**1**	**2**	**2**	**4**	**3.8.2**
3	If "wait for graph" for a set of processes contains a cycle, So it means A. There is no chance for a deadlock to occur B. The system is in a safe state. **C. There is a chance for a deadlock to occur** D.The system is not in a safe state	**1**	**2**	**3**	**3**	**3.8.2**
4	>>>p=pool(5). Consider this syntax and choose correct option A. a pool of three worker process **B. a pool of five worker process** C. a pool of five main process D. a pool of one main and four worker process	**1**	**3**	**3**	**3**	**3.8.2**
5	Name the Widget, which provides the range of values to the user, out of which, the user can select the one. A. Entry() B.Canvas() C. Scale() **D. Spinbox()**	**1**	**1**	**2**	**2**	**3.8.2**
6	Which of the following function decides what code to run when there are a specific event occurs, which are used to select which event handler to use for the event when there is specific event occurred. A. Inline function **B. Trigger function** C. Nested Fuction D. Friend Function	**1**	**2**	**2**	**4**	**3.8.2**
7	Consider the following output. What is the correct syntax for creating field "Submit" in the above window? a. parent = Tk() submit = Button(parent, command = "Submit").grid(row = 0, column = 0) b. parent = Tk() submit = Button(parent, text = "Submit").grid(row = 0, column = 0) **c. parent = Tk()** **submit = Button(parent, text = "Submit").grid(row = 2, column = 0)** d. parent = Tk() submit = Button(parent, command= "Submit")	**1**	**2**	**2**	**2**	**3.8.2**
8	Which two module does python offers to implement threads in python programming. A. <Thread> , <Threads> B. <Multi_thread>, <pthread> C. <threadpool>, <threadclass> D. **<thread>, <threading>**	**1**	**1**	**3**	**3**	**3.8.2**
9	Which of the following property of Geometry manager pack allows the widget to fill any space not otherwise used in widget's parent? a. fill b. span **c. expand** d. pad					**3.8.2**
10	Choose the syntax which doesn't insert a new record into sqlite3 table named phonebook with field's phoneno, fame, lname, email using python code, results in error condition? a) INSERT OR REPLACE INTO PhoneBook VALUES (123, 'x', 'G', 'xyz@gmail.com'); b) Insert into PhoneBook values(&phoneno,&fname,&lname,&email); **c) Insert into phonebook (phoneno,fname,lname,email) values(123, 'x', 'G', 'xyz@gmail.com');** d) INSERT INTO phonebook (phoneno, email) VALUES (?, ?)	**1**	**2**	**2**	**2**	**3.8.2**
Part – B (5 x 4 = 20 Marks) Instructions: Answer all Five Questions						
6	Write a SQL lite3 statement to create a table named as job including columns job_id,job_title, Min-salary, Max_salary, job_id column does not contain any duplicate value at the time of insertion Ans: import sqlite3	**4**	**3**	**3**	**3**	**3.8.2**

	con =sqlite3.connect("job.db") con.execute("CREATE TABLE IF NOT EXISTS jobs (JOB_ID varchar(10) NOT NULL , JOB_TITLE varchar(35) NOT NULL, MIN_SALARY decimal(6,0), MAX_SALARY decimal(6,0));") con.execute("insert into jobs values (101,'Manager',15000,25000)");					
7	What is Event Handler in Event Driven Programming? Ans: In programming, an event handler is a callback routine that operates asynchronously once an event takes place. It dictates the action that follows the event. The programmer writes a code for this action to take place. An event is an action that takes place when a user interacts with a program.	**4**	**2**	**2**	**2**	**3.8.2**

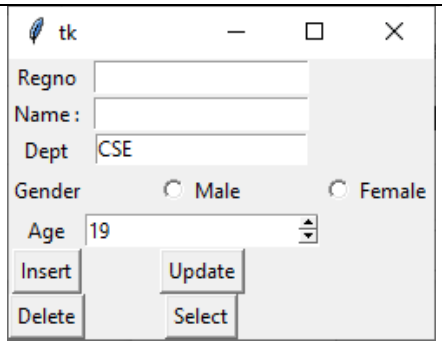
8	Write a python cocde to print the even numbers, odd numbers from the list of given numbers using Imperative approach [2,5,8,23,14,37,47,18,20,36,29]
	Ans:
	num = [2,5,8,23,14,37,47,18,20,36,29]
	odd =[]
	even =[]
	for i in num:
	if i%2==0:
	even.append(i)
	else:
	odd.append(i)
	print(odd)
	print(even)
		4	**2**	**2**	**3**	**3.8.2**

9	Draw a neat diagram and explain Implicit Parallelism: • Allows programmers to write their programs without any concern about the exploitation of parallelism. Exploitation of parallelism is instead automatically performed by the compiler and/or the runtime system. In this way the parallelism is transparent to the programmer maintaining the complexity of software development at the same level of standard sequential programming. • Extracting parallelism implicitly is not an easy task. For imperative programming languages, the complexity of the problem is almost prohibitively and allows positive results only for restricted sets of applications (e.g., applications which perform intensive operations on arrays.	**4**	**2**	**3**	**4**	**3.8.2**
10	Find the out the geometry managers for the following options and give its syntax: a. I have a set of radio widgets and want place it next to each other along horizontal axis. b. I have a button widget which I want to place it on specify coordinates denoting the screen Ans: Grid : rb1= tk. Radiobutton(root, text="Option 2", variable=var, value=1) rb1.grid(row=0,column =0) rb1.grid(row=0,column=1) b1= tk.Button(root, text=”Submit”, Command= root.destroy) b1.place(x=50,y=50)	**4**	**2**	**2**	**3**	**3.8.2**
Part – C (2 x 10 = 20 Marks) Instructions: Answer for two questions						

11 a	Create a table for Student with the following fields (Reg_no,stud_name,sex, and create a table Dept with the following fields(dept_no primary key, dept_name) a. Insert sample records and do the following b. Display the student reg_no,name and dept_name c. Display the student names ending with „ka“ d. Display all the female students name e. Display the student names by descending order Ans:	**10**	**3**	**3**	**3**	**3.8.2**

11b	Import sqlite3
	Con=sqlite3.connect(“colleg.db”)
	st = “create table student (rno number(3), name char(50),dept number(5), gender char(20));”
	Con.execute(st)
	st=”insert into student values (101,’ajay’,1,’male’);”
	Con.execute(st)
	
	st = “create table dept(dno number(3) primary key, dname char(50));”
	Con.execute(st)
	st=”insert into dept values (1,’cse’);”
	Con.execute(st)
	st = " select student.name, dept.name from student INNER JOIN dept ON s.dno=d.dno;"
	Con.execute(st);
	st=”Select rno,name,dept,spl from student;”
	Con.execute(st);
	st =”Select name from student where name like ‘%ka’;”
	con.execute(st);
	st= “Select * from students where gender='female';”
	con.execute(st)
	st= “Select * from students order by name desc;”
	con.execute(st)
	con.close()
	(OR)
	Explain Parallel Programming and illustrate parallelism using a multithreaded application in python.
	Ans:
	Multitasking, in general, is the capability of performing multiple tasks simultaneously. Multithreading refers to concurrently executing multiple threads by rapidly switching the control of the CPU between threads (called context switching). Python Global Interpreter Lock limits one thread to run at a time even if the machine contains multiple processors.
	There are two types of multitasking in an OS:
	• Process-based
	• Thread-based
	
	import threading
	from threading import *
	
	def calculate_square(num):
	print("Calculate the square of a given number")
	for n in num:
	print(f'The Square of {n} is:', n*n)
	
	def calculate_cube(num):
	print("Calculate the cube of a given number")
	for n in num:
	print(f'The Cube of {n} is:', n*n*n)
	
	lst = [2, 4, 6, 8, 10]
	
	thread1 = threading.Thread(target=calculate_square, args=(lst,))
	thread2 = threading.Thread(target=calculate_cube, args=(lst,))
	thread1.start()
	thread2.start()
	thread1.join()
	thread2.join()
		10	**3**	**3**	**3**	

12 a	Create the calendar using Tkinter by showing data month and year with scroll down menu to fix the particular data month and year and press the click button to show the message of clicked date, month and year.	**10**	**3**	**2**	**3**	**3.8.2**
	Ans:					
12 b	from tkinter import *					
	import calendar					
	from datetime import date					
	def printCalendar():					
	month = int(month_box.get())					
	year = int(year_box.get())					
	output_calendar = calendar.month(year, month)					
	calendar_field.delete(1.0, 'end')					
	calendar_field.insert('end', output_calendar)	**10**	**3**	**2**	**3**	
	def reset():					
	calendar_field.delete(1.0, 'end')					
	month_var.set(current_month)					
	year_var.set(current_year)					
	month_box.config(textvariable=month_var)					
	year_box.config(textvariable=year_var)					
	def close():					
	guiWindow.destroy()					
	header_frame = Frame(guiWindow)					
	entry_frame = Frame(guiWindow)					
	result_frame = Frame(guiWindow)					
	button_frame = Frame(guiWindow)					
	header_frame.pack(expand=True, fill="both")					
	entry_frame.pack(expand=True, fill="both")					
	result_frame.pack(expand=True, fill="both")					
	button_frame.pack(expand=True, fill="both")					
	header_label = Label(header_frame, text="CALENDAR")					
	header_label.pack(expand=True, fill="both")					
	month_label = Label(entry_frame, text="Month:")					
	year_label = Label(entry_frame, text="Year:",					
	font=("arial", "20", "bold"), fg="#000000")					
	month_label.place(x=30, y=0)					
	year_label.place(x=275, y=0)					
	month_var = IntVar(entry_frame)					
	year_var = IntVar(entry_frame)					
	current_month = date.today().month					
	current_year = date.today().year					
	month_var.set(current_month)					
	year_var.set(current_year)					
	month_box = Spinbox(entry_frame, from_=1, to=12, width="10",					
	textvariable=month_var, font=('arial','15'))					
	year_box = Spinbox(entry_frame, from_=0000, to=3000, width="10",					
	textvariable=year_var,font=('arial','15'))					
	month_box.place(x=130, y=5)					
	year_box.place(x=360, y=5)					
	if __name__ == "__main__":					
	guiWindow = Tk()					
	guiWindow.title("GUI Calendar")					
	guiWindow.geometry('500x550')					
	guiWindow.resizable(0, 0)					
	(OR)					
	Write a tkinter code to design the given application.					



Ans:
Ans:

```
from tkinter import *
root= Tk()
def insert():
        pass
l1 =Label(root,text="regno").grid(row=0,column=0)
eid=StringVar()
e1 =Entry(root,textvariable=eid).grid(row=0,column=1)
l2 =Label(root,text="Name").grid(row=1,column=0)
ename=StringVar()
e2 =Entry(root,textvariable=ename).grid(row=1,column=1)
l3 =Label(root,text="Dept").grid(row=2,column=0)
job=StringVar()
e3 =Entry(root,textvariable=job).grid(row=2,column=1)
l4 =Label(root,text="Gender").grid(row=3,column=0)
v=IntVar()
r1=Radiobutton(root, text="Male", value =1,variable=v).grid(row=3,column=1)
r2=Radiobutton(root, text="Female", value =2,variable=v).grid(row=3,column=2)
l5=Label(root,text="Age").grid(row=4,column=0)
s=IntVar()
s1=Spinbox(root, from_= 18, to = 50,textvariable=s).grid(row=4,column=1)
b1=Button(root,text="insert",command=insert).grid(row=5,column=0)
b2=Button(root,text="update",command=insert).grid(row=5,column=1)
b3=Button(root,text="select",command=insert).grid(row=6,column=0)
b4=Button(root,text="delete",command=insert).grid(row=6,column=1)
root.mainloop()
```