



Delhi Public School, Howrah

PERIODIC TEST – II (2024-2025)

CLASS – XII

Care must be taken not to write anything on the question paper. All the questions must be attempted in the correct sequence.

SUBJECT: COMPUTER SCIENCE (083)
THEORY EXAMINATION

Time Allowed:- 3 Hours

F.M.-70

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.
4. Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.
5. Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.
6. Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.
7. Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.
8. All programming questions are to be answered using Python Language only.

SECTION - A

1.	What will be the output of the code – print("100+200") (a) 300 (b) 100200 (c) 100+200 (d) 100 will be printed 200 times	(1)
2.	Which among the following is a mutable data type in Python? (a) int (b) string (c) tuple (d) list	(1)
3.	What data type the variable, bval will turn into when the statement – bval=str1>str2 will be executed if, str1 and str2 contains the values as "Delhi" and "New Delhi" respectively? (a) String (b) Boolean (c) float (d) char	(1)
4.	The identity/accessibility of a value present in a dictionary lies in its corresponding _____. (a) key (b) position (c) index (d) function	(1)
5.	Which of the following statements are not correct? A. An element in a dictionary is a combination of key-value pair. B. A tuple is a mutable data type. C. We can repeat a key in a dictionary. D. clear() function is used to delete the dictionary. (a) A, B, C (b) B, C, D (c) A, B, D (d) A, C, D	(1)
6.	What will be the output when the following code is executed? >>> str1 = "helloworld" >>> str1[:: -1] (a) hello (b) world (c) dlrowolleh (d) helloworld	(1)
7.	Functions that do not return any value are known as: (a) non-returned functions (b) non-void functions (c) void functions (d) user-defined functions	(1)

8.	Which block is a mandatory block in exception handling process? (a) try (b) except (c) finally (d) else	(1)
9.	The errors encountered when the user violates the syntax of a programming language while writing a code are termed as _____. (a) Compile time error (b) Logical error (c) Exception (d) Runtime error	(1)
10.	What happens if no arguments are passed to the file_object.seek() method? (a) file position is set to the start of the file (b) file position is set to the end of the file (c) file position remains unchanged (d) results in an error	(1)
11.	Which statement is used to retrieve the current position within the file? (a) fp.seek() (b) fp.tell() (c) fp.loc() (d) fp.pos()	(1)
12.	The readlines() method returns the read content in the form of a _____. (a) string (b) list of integers (c) list of single characters (d) list of strings	(1)
13.	To read two characters from a file object- fobj, the command should be- (a) fobjread(2) (b) fobj.read(2) (c) fobj.readline(2) (d) fobj.readlines()	(1)
14.	In a data structure, if a user tries to remove an element from an empty stack, the situation is called _____. (a) Underflow (b) Empty Collection (c) Overflow (d) Garbage collection	(1)
15.	A stack is a – (a) FIFO (First in First Out) list (b) LIFO (Last in First Out) list (c) Ordered array (d) Linear tree	(1)
16.	Traversal of a stack is supposed to be performed in which of the following operation? (a) PUSH (b) POP (c) DISPLAY (d) PEEK	(1)

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as-

- (a) Both A and R are true and R is the correct explanation for A.
- (b) Both A and R are true but R is not the correct explanation for A.
- (c) A is true but R is false.
- (d) A is false but R is true.

17.	Assertion (A):- The file_object.close() method is used to close a Python file. Reasoning (R):- While closing a file, the system frees up all the resources like CPU processor time and memory allocated to it.	(1)
18.	Assertion (A):- The major implementation of using a data structure is to manage the storage of data in the memory efficiently. Reasoning (R):- Data structures refers to the way memory is allocated for holding data using minimum space. It leads to faster data access during the execution of the program.	(1)

SECTION – B

19.	<p>Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.</p> <pre>Value=30 for VAL in range (0,Value) if VAL%4==0: Print (VAL*4) elif VAL%5==0: print (VAL+3) Else: print (val+10)</pre> <p style="text-align: center;">OR</p> <p>Find the errors in the following code and rewrite it. Underline each correction done in the code.</p> <pre>p=30 for c in range (0,p) If c%4==0: print (c*4)</pre>	(2)
-----	---	-----

	<pre> Elseif c%5==0: print (c+3) else print (c+10) </pre>	
20.	<p>Junaid's brother is in class XII and he came up with the following code to Junaid asking for the probable output of the code. Help Junaid by predicting the output of the code.</p> <pre> def say(message, times=1): print (message * times) say ("Hello") say ("World", 5) </pre>	(2)
21.	<p>Differentiate between local variable and global variable. Give a suitable python code to illustrate both.</p> <p style="text-align: center;">OR</p> <p>Is return statement optional in a function block? Compare and comment on the following two return statements. (a) return (b) return val</p>	(2)
22.	<p>Ganeshan is analyzing the functioning of the following code. Help Ganeshan by answering the question that follow.</p> <pre> f = open("test", "w+") f.write("0123456789abcdef") f.seek(13) #Statement 1 print (f.read(3)) #Statement 2 </pre> <p>Explain Statement 1 with its syntax and give the output of Statement 2.</p>	(2)
23.	<p>What will be the output of the following code?</p> <pre> x, y, a = 5, 0, None print ("a") try: print ("b") a = x/y print ("c") except: print ("d") print ("e") print (a) </pre> <p style="text-align: center;">OR</p> <p>Consider the following code snippets that generates error as shown below. State the reasons for the errors and also rewrite the code snippet that will execute error free.</p> <p>(a) digits = {0: 'Zero', 1: 'One', 2: 'Two', 3: 'Three', 4: 'Four'} print (digits['Five']) Traceback (most recent call last): #File "<pyshell#3>", line 1, in <module> print (digits['Five']) KeyError: 'Five'</p> <p>(b) colors = ['red', 'green', 'blue'] colors [4] Traceback (most recent call last): #File "<pyshell#5>", line 1, in <module> colors [4] IndexError: list index out of range</p>	(2)
24.	<p>Define the following terms related to network: (a) NIU (b) MAC Address</p>	(2)

	OR	
	Explain the functionality of TCP/IP in a communication process over internet.	
25.	Communication through networking is a crucial affair. Sharing of data units must be dealt with judiciously so that the data reaches its end point securely and timely. Differentiate between Circuit Switching and Packet Switching techniques of sending data across network in this regard.	(2)

SECTION – C

26.	Radhika is a student of class XII and she is learning about file handling of binary type using Python. Explain the following concepts to Radhika so that she can prepare well. (i) What do you understand by Binary files? (ii) What is Serialization? (iii) What are Pickling and Unpickling processes?	(3)
27.	A stack is a special data structure that follows a particular pattern to deal with items present in it. Consider the following stack of characters implemented as a list of elements. STACK = ["A", "J", "P", "N"]. The following operations are performed on the stack. STACK.pop() STACK.append("S") STACK.append("G") STACK.pop() STACK.append("K") Explain the process to derive the output of the statement print (STACK).	(3)
28.	Find the output of the following code and explain the process: result=0 numberList = [10,20,30] numberList.append(40) result = result+numberList.pop() result = result+numberList.pop() print (result) print (numberList) <p style="text-align: center;">OR</p> Predict the output of the following code and explain the process: answer = [] output = "" answer.append('T') answer.append('A') answer.append('M') ch=answer.pop() output=output+ch ch=answer.pop() output=output+ch ch=answer.pop() output=output+ch print ("Result = ", output)	(3)
29.	What do understand by CSV file? What is the importance of the newline="" keyword in the open function of a csv file?	(3)
30.	Raghav is working on an existing CSV file named "Students.csv" containing student data in the form of a nested list. He is not aware of the number of records present in the file. Write a program in Python for Raghav to count the number of records present in the "Students.csv" file.	(3)

SECTION – D

31.	Write a Python program that – (a) Reads a binary file "emp" and displays all the records of employees one by one. (b) Display the records of all those employees who are getting salaries between 25000 to 30000.	(4)
32.	Write a Python program to add (append) Employee records such as employee number, employee name, salary onto a CSV file.	(4)

SECTION – E

<p>33.</p>	<p>Ranjan Kumar of class XII is writing a program to create a CSV file “user.csv” which will contain user name and password for some entries. He has written the following code. As a programmer, help him to complete the code and execute the given task successfully.</p> <pre> import _____ #Line 1 def addCsvFile(Username, Password): f=open('user.csv', _____) #Line 2 newFileWriter=csv.writer() newFileWriter.writerow(UsrName, Password) f.close() def readCsvFile(): newFile=open('user.csv','r') newFileReader=csv. _____ (newFile) #Line 3 for row in newFileReader: print (row[0], row[1]) newFile _____ #Line 4 addCsvFile (“Arjun”, “123@456”) addCsvFile (“Arunima”, “aru@nima”) addCsvFile (“Frieda”, “myname@FRD”) readCsvFile() #Line 5 </pre> <p>(a) Name the module he should import in Line 1. (1) (b) In which mode should Ranjan open the file to add data into the 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 he will obtain while executing Line 5. (1)</p>	
<p>34.</p>	<p>Disha is working on a Python program that considers a dictionary with keys as course name and fee as value. Complete the given program and help Disha to the push course name in Stack where fee is more than 10000. Pop and display the contents of the stack on the screen. Based on the code given below, answer the questions that follow:</p> <pre> course_dict={'BSC':8000, 'MSC':12000, 'BCA':15000, 'PGDCA': 9000, 'MCA':30000, 'MBA':50000} STACK=[] def NEWDATA(): course=input(“Enter course name:”) fee=int(input(“Entre fee:”)) _____ #Statement 1 print (“Data saved successfully”) print (course_dict) def PUSH(): for key in course_dict: if _____ > 10000: #Statement 2 STACK. _____ #Statement 3 def POP(): if _____ == 0: #Statement 4 print (“STACK EMPTY, No course with fee > 10000”) else: print (“Course fee more than 10000”) for top in range (len(STACK), 0, -1): print (_____) #Statement 5 NEWDATA() PUSH() POP() </pre>	

	(a) Write a code to add the fee and course name to course_dict (Statement 1). (b) Complete the code to compare the fee to the given key (course) (Statement 2). (c) Write a code to insert the element in the Stack (Statement 3). (d) Write a code to find the length of the stack (Statement 4). (e) Write a code to delete the element of the stack (Statement 5).	(1) (1) (1) (1) (1)
35.	<p>New Horizon Technology Institute stores the details of the students enrolled with it. The institute maintains the details in a binary file named "STUDENT.DAT" that contains the data – admission_number, Name and Percentage. Write a function countRec() in Python that would read the contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75.</p> <p style="text-align: center;">OR</p> <p>Infopedia is an online encyclopaedia which stores detailed information about various countries. In order to provide efficient processing for retrieval and display of names of countries, it has to be digitized, which requires handling additions and deletions through data structures in Python, primarily Stacks. Write a program constituting methods in Python to add, display and remove a name from a given stack of names of the various countries.</p>	(5)