

Directorate of Education, GNCT of Delhi

Mid Term Examination Practice Paper

Session: 2025-26

CLASS-XII

Computer Science (CODE :083)

Time Allowed: 3 hours

Maximum Marks:70

General Instructions:

- Please check this question paper contains **37 questions**.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt **only one** of the choices in such questions.
- This paper is divided into 5 sections: **A, B, C, D, E**.
- **Section A:** 21 questions (1–21). Each question carries **1 mark**.
- **Section B:** 7 questions (22–28). Each question carries **2 marks**.
- **Section C:** 3 questions (29–31). Each question carries **3 marks**.
- **Section D:** 4 questions (32–35). Each question carries **4 marks**.
- **Section E:** 2 questions (36–37). Each question carries **5 marks**.
- **All programming questions are to be answered using Python language only.**
- In case of MCQ, write the **text** of the correct answer as well.

Q. No.	Question	Marks
SECTION A		
1.	State True or False. A tuple may contain any type of data except another tuple.	1
2.	The function tell() in file handling returns: a) Current position of file pointer b) Number of characters in file c) File name d) None of these	1
3.	What will the output of the following python code? def test(x,y=5,z=10): print(x,y,z) test(2,z=15)	1

	a) 2 5 10 b) 2 15 10 c) 2 5 15 d) Error	
4.	Which of the following is a mutable data type? a) tuple b) list c) string d) None of these	1
5.	What is the extension of a binary file? a) .csv b) .txt c) .dat d) .xlsx	1
6.	Which of the following is not a valid exception in Python? a) IndexError b) TypeError c) NullError d) ZeroDivisionError	1
7.	What will be the output of: <pre>print(4+3*2**2-8//3)</pre> a) 12 b) 11 c) 10 d) 14	1
8.	Which keyword is used to define a function in Python? a) def b) function c) funct d) fun	1

9.	State True or False. append() function in Python list always adds elements at the beginning of list.	1
10.	Which type of argument must not always be passed in a function call? a) Default b) Keyword c) Positional d) None of the above options	1
11.	What will be the output? d={1:"One",2:"Two",3:"Three"} print(d[2]) a) One b) Two c) Three d) Error	1
12.	The situation where deletion is performed on an empty stack is called: a) Overflow b) Underflow c) Devaluation d) Crash	1
13.	Which random module function generates a value between 0 and 1? a) random() b) randint() c) uniform() d) choice()	1
14.	Which file opening mode allows both read and write without truncating the file? a) w+ b) r+	1

	c) a+ d) x	
15.	If s="PYTHON", then s[-3:] will return: a) "HON" b) "PYT" c) "THO" d) "ON"	1
16.	Pickling in Python refers to: a) Converting binary data to text b) Converting Python objects into byte stream c) Compressing text files d) Encrypting data	1
17.	Which data structure principle does a stack follow? a) FIFO (First In First Out) b) LIFO (Last In First Out) c) FILO (First In Last Out) d) Both b and c	1
18.	What will len("Python\n") return? a) 6 b) 7 c) 8 d) Error	1
19.	What is the default delimiter used in a CSV file? a) , (comma) b) ; (semicolon) c) : (colon) d) \t (tab)	1

	Assertion and Reason: In the following questions, A statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as: A) Both A and R are true and R is correct explanation of A B) Both A and R are true but R is not correct explanation of A C) A is true but R is false D) A is false but R is true	
20.	Assertion (A): Functions help in code reusability in Python. Reason (R): A function can be defined once and called multiple times.	1
21.	Assertion (A): The finally block in Python is always executed. Reason (R): The finally block executes only when there is no exception.	1
SECTION B		
22.	What is the output of the following code? <pre>i=0 while i<3: print("AI",end=" ") i+=1 else: print("Done")</pre>	2
23.	Write a Python program to read data from a text file “marks.txt” and display the number of words in it. <div style="text-align: center; background-color: #e0e0e0; padding: 5px;">OR</div> Write a Python program to read the content of a file “sample.txt” and print the first 10 characters and then move the pointer to the 25 th character and then read and print the next 10 characters.	2

24.	Write a function COUNT_LONG() in Python to read file “story.txt” and print all words having more than 7 letters.	2
25.	<p>Correct the following code (underline the corrections):</p> <pre>for i in range(1,10): if i%2=0: print i else continue</pre> <p style="text-align: center;">OR</p> <p>Create a function square(number) in python that takes a tuple of marks and returns a tuple having square of each number. Take a tuple of numbers as an input from the user and call this function and prints tuple of squares outside the function.</p> <p>Example: Input: (2,3,5,7) Output: (4,9,25,49)</p>	2
26.	<p>Write a Python function BIG_KEYS(D,N) that prints all keys from dictionary D having values greater than N.</p> <p style="text-align: center;">OR</p> <p>Write a function FUN(N) in python that takes a number N as an argument and creates a list L of all the integers from 1 to N that are multiples of 3 or 7.</p>	2
27.	Differentiate between w+ and a+ file modes.	2
28.	<p>Identify local and global variables in the following code:</p> <pre>x=50 def calc(): y=20 z=x+y return z print(calc())</pre>	2

SECTION C

29.	<p>Predict the output of the following code:</p> <pre> try: num=[10,20,0,30] for i in range(4): print(100//num[i]) except ZeroDivisionError: print("Zero") except: print("Error") else: print("Done") </pre>	3
30.	<p>Consider the file “city.txt” containing:</p> <pre> Delhi is beautiful Mumbai is crowded Kolkata is historic </pre> <p>What will be the content of a, b and c after execution?</p> <pre> f=open("CITY.TXT") a=f.read(6) b=f.readline() c=f.readline() f.close() </pre> <p style="text-align: center;">OR</p> <p>Given list: L=[5,10,[15,20,[25,30]],40]</p> <p>Find the output of:</p> <ol style="list-style-type: none"> print(L[2][2][0]) print(L[1]+L[3]) print(L.pop(2)) 	1 x 3 = 3

31.	Write a Python program to read file data.txt and count number of digits, vowels and uppercase letters.	3
SECTION D		
32.	Write a function COPY_SMALL() in Python that copies all words of length less than 4 and starts with a vowel from “source.txt” into “target.txt”.	4
33.	<p>A binary file “emp.dat” has structure [EID, Ename, designation, salary].</p> <p>a) Write a user defined function CreateEmp() in Python to input data of 10 employees from the user and store it in “emp.dat”.</p> <p>b) Write a function display() in Python to display the detail of all employees whose salary is more than 50000.</p>	2 x 2 = 4
34.	<p>Consider file PRODUCTS.CSV containing [P_Id, P_Name, Price, Qty]. Write two functions:</p> <p>a) Prod_Add() – Accepts product details from user and writes only those products whose quantity is more than 10 into file.</p> <p>b) Prod_Search() – Reads file and prints details of products having Price greater than 1000.</p>	2 x 2 = 4
35.	<p>A company maintains a "codes.txt" file, where each line contains a product code followed by its name, separated by a comma (e.g., P101,Laptop).</p> <p>Write a Python program that:</p> <p>a) Reads all product codes and their names from the file. It should remove any entries where the product code is not in the format P#### (where #### are three digits).</p> <p>b) Takes a new product code and name from the user. If the product code already exists, it should print "Product code already exists". Otherwise, it should append the new product to the file and print "Product Added".</p>	2 x 2 = 4

SECTION E

36.	<p>(i) What is a stack? Explain it with the help of an example.</p> <p>(ii) Consider a stack R that stores data for library books in the following structure: [BookID, Title, Author, Year, Category] Write the following functions in Python:</p> <p>a) Push(R): If there are less than 500 books in the stack take the data of a new book and add it to the top. Otherwise, print "OVERFLOW".</p> <p>b) Display(R): Show all books in the stack from top to bottom whose Category is 'Fiction'.</p> <p>c) Pop(R): Remove the book from the top of the stack and display its details. If the stack is empty, print "UNDERFLOW".</p> <p style="text-align: center;">OR</p> <p>(i) How do you check if a stack, implemented with a list, is empty?</p> <p>(ii) A nested list, transactions, contains financial records with the following format: [ID, Type, Amount, Date]. Write the following user-defined functions in Python to perform specified operations on the stack named STK:</p> <ul style="list-style-type: none"> • Push(STK, transactions): This function takes the stack STK and nested list transactions as arguments. It pushes a transaction record onto the stack only if the transaction Type is 'debit' and the Amount is between 100 and 500. • Pop(STK): This function pops the topmost element from the stack. If the stack is empty, it should print "Transaction log is empty", otherwise it should print the popped transaction's ID. 	2 + 3 = 5
37.	<p>(i) Differentiate between load() and dump() functions?</p> <p>(ii) A school maintains student records in a binary file called "students.dat". Each record is a dictionary:</p>	2 + 3 = 5

	<pre>{"RollNo": 15, "Name": "Amit Sharma", "Marks": {"Maths": 95, "Physics": 88}, "Grade": "A"}</pre> <p>Write a Python program that performs the following tasks:</p> <ul style="list-style-type: none"> (a) Add a new student record to the binary file. (b) Display the Name and RollNo of all students who have a grade of "A". (c) Take a RollNo and subject name as input and update the marks for that subject. <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> (i) What is unpickling? (ii) A bank uses a binary file, "accounts.dat", to manage customer account information. Each record is a dictionary structured as follows: <pre>{"AccountNo": 12345, "CustomerName": "Rohan", "Balance": 75000.00}</pre> <p>Write a Python program that performs the following tasks:</p> <ul style="list-style-type: none"> a) Add a new customer account record to the binary file, taking AccountNo, CustomerName, and Balance as user input. b) Display the AccountNo and CustomerName of all customers who have a Balance below 10000. c) Take an AccountNo and Amount as input and update the balance by adding the amount to it. 	
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