FIRST PRE BOARD EXAM (2024-25) CLASS-XII SUBJECT- COMPUTER SCIENCE(083) QP12ACS01PB24

TIME-3:00 HRS

General Instructions:

Max Marks-70

- 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 question paper contains five sections, Section A to E.
- Section A have 21 questions (1 to 21) carrying 01 mark each.
- Section B has 07 questions (22 to 28) carrying 02 marks each.
- Section C has 03 questions (29 to 31) carrying 03 marks each.
- Section D has 04 questions (32 to 35) carrying 04 marks each.
- Section E has 02 questions (36 to 37) carrying 05 marks each.
- All programming questions are to be answered using Python Language only.
- In case of MCQs, text of the correct answer should also be written.

	SECTION A	
1.	State True or False	1
	"Variable declaration is implicit in Python."	
2.	Which of the following is an invalid datatype in Python?	1
	(a) Set (b) None	
	(c) Integer (d) Real	
3.	Given the following dictionaries	1
	<pre>dict_exam={"Exam":"AISSCE", "Year":2025}</pre>	
	<pre>dict_result={"Total":500, "Pass_Marks":165}</pre>	
	Which statement will merge the contents of both dictionaries?	
	(a) dict_exam.update(dict_result) (b) dict_exam + dict_	
	(c) dict_exam.add(dict_result) (d) dict_exam.merge(
4.	Consider the given expression:	1
	not True and False or True	
	Which of the following will be correct output if the given expression iseval	uated?
	(a) True (b) False	
	(c) NONE (d) NULL	
5.	Select the correct output of the code:	1
	a = "Year 2022 at All the best"	
	a = a.split('2')	
	b = a[0] + ". " + a[1] + ". " + a[3]	
	print (b)	
	(a) Year . 0. at All the best	
	(b) Year 0. at All the best	
	(C) Year . 022. at All the best	
	(d) Year . 0. at all the best	
6.	Which of the following mode in file opening statement results or generate	es an error if the 1
	file does not exist?	
	(a) $a+$ (b) $r+$ (c) $w+$ (d) None of the above	
7.	Fill in the blank:	1
	command is used to remove primary key from the table in SQL.	

	(a) update (b) remove (c) alter (d) drop							
8.	Which of the following commands will delete the table from MYSQL database?	1						
	(a) DELETE TABLE (b) DROP TABLE							
	(c) REMOVE TABLE (d) ALTER TABLE							
9.	Which of the following statement(s) would give an error after executing the	1						
	following code?							
	S="Welcome to class XII" # Statement 1							
	print(S) # Statement 2							
	S="Thank you" # Statement 3							
	S[0]= '@' # Statement 4							
	S=S+"Thank you" # Statement 5							
	(a) Statement 3							
	(b) Statement 4							
	(C) Statement 5							
	(d) Statement 4 and 5							
10.	Fill in the blank:	1						
10.	is a non-key attribute, whose values are derived from the primary key of some	1						
	other table.							
	(a) Primary Key (b) Foreign Key							
	(c) Candidate Key (d) Alternate Key							
11.		1						
11.	The correct syntax of seek() is:							
	(a) file_object.seek(offset [, reference_point])							
	(b) seek(offset [, reference_point])							
	(C) seek(offset, file_object)							
	(d) seek.file_object(offset)							
12.	Fill in the blank:	1						
	The SELECT statement when combined with clause, returns records							
	without repetition.							
	(a) DESCRIBE (b) UNIQUE							
	(c) DISTINCT (d) NULL							
13.	Fill in the blank:	1						
	is a communication methodology designed to deliver both voiceand multimedia							
	communications over Internet protocol.							
	(a) VoIP (b) SMTP (c) PPP (d)HTTP							
14.	What will the following expression be evaluated to in Python?	1						
	print(15.0 / 4 + (8 + 3.0))							
	(a) 14.75 (b) 14.0 (c) 15 (d) 15.5							
15.	Which function is used to display the total number of records from table in a database?	1						
	(a) $sum(*)$ (b) $total(*)$							
	(c) count(*) (d) return(*)							
16.	To establish a connection between Python and SQL database, connect() is used. Which of	1						
	the following arguments may notnecessarily be given while calling connect()?							
	(a) host (b) database							
	(c) user (d) Password							
1.7	What is the scope of a variable defined outside of any function?	1						
17.	· r · · · · · · · · · · · · · · · · · ·	-						
17.	(a) Global scope (b) Local scope							
17.	(a)Global scope(b)Local scope(c)Module- scope(d)Function- scope							

	a) Use the spists() function from the as module	
	a) Use the exists() function from the os module	
	b) Use the open() function with the try-except block	
	c) Use the isfile() function from the os.path module	
19.	d) All of the above Which type of network consists of both LANs and MANs?	1
19.		1
	(a) Wide Area Network (b) Local Area Network	
	(c) Both a and b (d) None of the above	
	Q20 and 21 are ASSERTION AND REASONING based questions. Mark the correct	
	choice as	
	(a) Both A and R are true and R is the correct explanation for A	
	(b) Both A and R are true and R is not the correct explanation for A	
	(c) A is True but R is False	
20	(d) A is false but R is True	1
20.	Assertion (A):- If the arguments in function call statement match the number and order of	1
	arguments as defined in the function definition, such arguments are called positional	
	arguments. Reasoning (R):- During a function call, the argument list first contains default argument(s)	
	followed by positional argument(s).	
21.	Assertion (A): CSV (Comma Separated Values) is a file format for datastorage which looks	1
21.	like a text file.	1
	Reason (R): The information is organized with one record on each line and each field is	
	separated by comma.	
	SECTION B	
22.	Rao has written a code to input a number and check whether it is prime or not. His code is	2
	having errors. Rewrite the correct code and underline the corrections made.	
	<pre>def prime():</pre>	
	n=int(input("Enter number to check :: ")	
	for i in range $(2, n/2)$:	
	if n%i=0:	
	print("Number is not prime n ")	
	break	
	else:	
<u> </u>	print("Number is prime \n')	
23.	Write two points of difference between Circuit Switching and PacketSwitching.	2
	OR	
	Write two points of difference between XML and HTML.	
24.	(a) Given is a Python string declaration:	1
	myexam="@@CBSE Examination 2022@@"	1
	_	
	Write the output of: print(myexam[::-2])	
	(b) Write the output of the code given below:	
ł	<pre>my_dict = {"name": "Aman", "age": 26}</pre>	1
ł	my diat $[l_{a} = 27]$	
	<pre>my_dict['age'] = 27</pre>	
	<pre>my_dict['address'] = "Delhi"</pre>	
	—	

	example to support your answer.	
26.	(a) Write the full forms of the following:	2
	i. SMTP (ii) PPP	
	(b) What is the use of TELNET?	
27.	Predict the output of the Python code given below:	2
	<pre>def Diff(N1,N2):if</pre>	
	N1>N2:	
	return N1-N2	
	else:	
	return N2-N1	
	NUM= [10,23,14,54,32]	
	for CNT in range (4,0,-1):	
	A=NUM[CNT]	
	B=NUM[CNT-1]	
	print(Diff(A,B), '#', end=' ')	
	OR	
	Predict the output of the Python code given below:	
	tuple1 = (11, 22, 33, 44, 55, 66)	
	list1 =list(tuple1)	
	<pre>new_list = []</pre>	
	for i in list1:if	
	i%2==0:	
	<pre>new_list.append(i) new_tuple = tuple(new_list)</pre>	
20	print (new_tuple)	
28.	Differentiate between count() and count(*) functions in SQL with appropriate example.	2
	OR	
	OK OK	
	Categorize the following commands as DDL or DML:INSERT, UPDATE, ALTER, DROP	
	SECTION C	
29.	(a) Consider the following tables – Bank_Account and Branch:	1+2
	Table: Bank_Account Table: Branch	
	ACode Name Type	
	A01 Amrita Savings ACode City	
	A02 Parthodas Current A01 Delhi	
	A03 Miraben Current A02 Mumbai	
	A01 Nagpur	
	What will be the output of the following statement?	
	SELECT * FROM Bank Account NATURAL JOIN Branch;	
	(b)Write the output of the queries (i) to (iv) based on the given table,	
L		<u> </u>

			Table: TECH_C	OURSE				
		CID	CNAME	FEES	STARTDATE	TID		
		C201	Animation and VFX	12000	2022-07-02	101		
		C202	CADD	15000	2021-11-15	NULL		
		C203	DCA	10000	2020-10-01	102		
		C204	DDTP	9000	2021-09-15	104		
		C205	Mobile Application Development	18000	2022-11-01	101		
		C206	Digital marketing	16000	2022-07-25	103		
	i.		T DISTINCT TID FRO				I	
	ii.		T TID, COUNT(*), MI NG COUNT(TID)>1;	N(FEES) FF	ROM TECH_CC	URSE C	ROUP BY TID	
	iii.		T CNAME FROM TE	CH_COUR	SE WHERE FE	EES>150	00 ORDER BY	
	iv.	SELEC	CT AVG(FEES) FROM	TECH_COU	JRSE WHERE	FEES BE	ETWEEN 15000	
30.	Write	AND 1	od COUNTLINES() in I	Duthan to ra	ad lines from to	rt filo 'T	ECTEII E TVT'	3
50.			e lines which are not sta	•			ESTFILE.IAI	5
		•	ent is as follows:	rung with a	iy vowei. Examp	Jie.		
			y keeps the doctor away	•				
			r everyone's safety. erence will come in our	country. T				
			NES() function should d f lines not starting with a		-			
				OR				
	"TES	TFILE.T	on ETCount() in Python 'XT" and then count and ally (includingsmall cas	d displaythe	count of occurr			
	Exam	ple:						
	If the	file cont	ent is as follows:					
			asant day.It might					
	rain te It is n		d on weather sites					
	T or t :	9	() function should displa					
31.	• •		outputs of the SQL que outputs of the SQL que outputs of the second seco	ueries (i) to	(iv) based on the	ne relatio	ons Teacher and	2+1

	Name	Age	Department	Date_of_join	Salary	Gender	
1	Arunan	34	Computer Sc		12000	M	
2	Saman	31	History	2017-03-24	20000		
3	Randeep		Mathematics		30000		
4	Samira	35	History	2018-07-01	40000		
5	Raman	42	Mathematics	2021-09-05	25000	M	
6	Shyam	50	History	2019-06-27	30000	M	
7	Shiv	44	Computer Sc		21000		
8	Shalakha	33	Mathematics	2018-07-31	20000	F	
Table	: Placemer	nt					
P_ID		rtmen	t	Place			
1	Histo			Ahmedabad			
2		emati		Jaipur			
3	Com	outer S	Sc	Nagpur			
i.		-		avg(salar	y) FR	OM Teacher	GROUP BY
	Depart						
ii.	SELECI	- -	MAX(Date_	of_Join),M	IN(Da	te_of_Join) FROM
	Teache	er;					
iii.	SELECI	. N	ame, Sal	ary, T.D	epart	ment, Pla	ce FROM
	Teache	er	T, Place	ement P	WHERE	E T.Depart	tment =
				alary>2000(-	
iv.	-			—		r T, Plac	ement P
			•			=P.Departm	
(h) U				toles in a databas		l-r.Departin	lenc,
(0) V		mman	iu to view all ta	SECTION D	е.		
(a) Wh	at will be t	he out	put of the follo				
x = 3			1	e			
def r	nyfunc()	:					
¢	global >	Ζ					
x+=2							
-	print(x ,						
print	c(x, end	l=' ')				
myfunc()							
-	c(x, end						
(b)Cor	sider the c	ode gi	ven below				
Impo	ort	as	sqltor				
conr	n=sqltor	.con	nect (host=	-'localhost'	,user	='john',pas	sword=''
	databas					_	
cursor=							
quei							
cursor.execute(query)							
data=							
data	row in						
data	row in prin						

	by fill in the blanks.	
33.	(a) differentiate dump() and load() in the context of binaryfile.	2+2
	(b) Write a Program in Python that defines and calls the following user defined functions:	
	i. add() – To accept and add data of a Product to a CSV file 'Product.csv'.Each record	
	consists of a list with field elements as pid, pname and price to store Product id,	
	Product name and Product price respectively.	
	ii. search()- To display the records of the Product whose price is more than 20000 and	
	product name starting with a vowel.	
34.	Write a program to create a Stack of Students containing 5 records each record structured as	4
	[Roll, Name, Percentage of marks].Perform the following:	
	a) Display all the details of the Student who got the highest percentage of marks.	
	b) Insert a new Record to a Stack.	
	c) Remove the student details who scored less than 90% and display Stack.	
35.	A school wants to store its students' records in digital form. For this they want the	2+2
	following information of each student to be stored:	
	- Student_ID – integer	
	- Student_Name – string	
	- Class – integer	
	- House – string	
	nouse sump	
	You, as a programmer, have been assigned to do this job for school.	
	1. Write a function to input the data of a student and append it in a binary file.	
	2. Write a function to update the data of student whose house is Ashoka and change	
	it to Raman.	
0.6	SECTION E	-
36.	Intelligent Hub India is a knowledge community aimed to uplift the standard of skills and	5
	knowledge in the society. It is planning to setup its training centers in multiple towns and	
	villages of India with its head offices in the nearest cities. They have created a model of	
	their network with a city, a town and 3 villages as given. As a network consultant, you have	
	to suggest the best network related solution for their issues/problems raised in (a) to (e)	
	keeping in mind the distance between various locations and given parameters.	
	(VILLAGE 1)	
	Head Office (VILLAGE 3)	
	YTOWN	
	(VILLAGE 2)	

Shortest o	listance between various locations:		Number of computers iinstalled at various	s locations are as follow						
VILLA	GE 1 To YTOWN	2 KM	YTOWN	100						
VILLA	GE 2 To YTOWN	1.2 KM	VILLAGE 1	100						
VILLA	GE 3 To YTOWN	3 KM	VILLAGE 2							
VILLA	GE 1 To VILLAGE 2	3.5 KM		15						
VILLA	GE 1 To VILLAGE 3	4.5 KM	VILLAGE 3	15						
VILLA	GE 2 To VILLAGE 3	3.5 KM	CITY OFFICE	5						
CITY I	CITY Head office to YHUB 30 KM									
b) c) d) e) 37. You ar MySQL	 a) Suggest the most appropriate location of the SERVER in the YHUB (out of the 4 locations), to getthe best and effective connectivity. Justify your answer. b) Suggest the best wired medium and draw the cable layout (location to location) to efficientlyconnect various locations within the YHUB. c) Which hardware device will you suggest to connect all the computers within each location of YHUB? d) Which server/protocol will be most helpful to conduct live interaction of Experts from Head officeand people at YHUB locations? e) Suggest a device/software and its placement that would provide data security for the entire network of the YHUB. You are working on a project that involves managing inventory records of a store in a MySQL database. Your task is to create a Python program that performs the following operations: 									
2.	user is admin, and the computer, not a remote Create a table: The ta o ProductID (IN o ProductName o Price (FLOAT o PurchaseDate Insert data into the INVENTORY table. Retrieve and display	e password is e computer. able INVENT (TEGER, Prin (VARCHAR(((8,2)) (DATE) table : Insert a all records : V	Assume the database is named admin123. The MySQL is ava ORY should have the following hary Key, Auto Increment) (100)) at least three records with samp Write a Python function that retr rints them in a readable format.	ilable on a local columns: ple data into the						
			END							