O.P.JINDAL SCHOOL , SAVITRI NAGAR

PRE – BOARD – II (2025-26)

Class: XII (SET- A) Max.Marks:70
Subject: Computer Science Time : 3 hrs.

General Instructions:

(i) This question paper contains 37 questions.
(ii) All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
(iii) The paper is divided into 5 Sections – A, B, C, D and E.
(iv) Section A, consists of 21 questions (1 to 21). Each question carries1 mark.
(v) Section B, consists of 7 questions (22 to 28). Each question carries 2 marks.
(vi) Section C, consists of 3 questions (29 to 31). Each question carries 3 marks.
(vii) Section D, consists of 4 questions (32 to 35). Each question carries 4 marks.
(viii) Section E, consists of 2 questions (36 to 37). Each question carries 5 marks.
(ix) All programming questions are to be answered using Python Language only.
(x) In case of MCQs, text of the correct answer should also be written.

	Section-A (21 x 1 = 21 Marks)	
1	**State whether the following statement is True or False :** 'All elements in a tuple must be of same type.'	1
2	**What will be the output of the following code?** S="PRE BOARD@2025" print(S[-4:2:-2]) a. RO b. 2DAB c. 2DA d. @O25	1
3	**Which among the following offers maximum data transfer rate in a network?** a. Fiber Optics b.Twisted Paired Cable c. Coaxial Cable d.UTP	1
4	**Which among the following methods allow you to place the file pointer anywhere in a file?** a. seek() b. tell() c. read() d. write()	1
5	If, T = [1,2,4], [5,3],(1,"ravi"),[4,5] What will be the output of the statement: print(type(T)) ? a. <class 'tuple'> b <class 'list'> c. <class 'str'> d. <class 'dict'>	1
6	**Which among the following SQL command is used to view the structure of a table?** a. VIEW b. DESCRIBE c. SHOW d. SELECT	1
7	**Which of the following aggregate functions ignore null values?** a.count () b. count (*) c. avg () d. sum ()	1
8	**What will the output of the following expression ?** print((100.0/4+(3+2.55)))	1
9	**Which of the following is not a correct output on execution of the following code.** import random p=[30,40,50,60,70,80] a=random.randint(1,3) b=random.randint(2,4) for c in range(a,b+1):	1

	print(p[c],end="$") a. 40$50$ b. 50$ c. 60$ d.80$	
10	**Identify the incorrect function header?** a.def fun(x=1,y) b.def fun(x=1,y,z=2) c.def fun(x=1,y=1,z=2) d.def fun(x=1,y=1,z=2,w)	1
11	**Which among the following is used to create a reference in multiple tables?** a. Unique b. Foreign c. Not null d.Candidate key.	1
12	**_____ communication technology delivers both voice and multimedia communication over the internet protocol.**	1
13	**Identify SQL aggregate function to find mean of numerical values in a column?** a. mean( ) b.average( ) c. Avg( ) d. Count( )	1
14	**Find the output of the following code fragment?** S='All the best for 2026 Board exams' P=S.partition('for') print(P)	1
15	**Which protocol facilitates remote login to any PC** a. SMTP b. FTP c. VOIP d.TELNET	1
16	**Which of the following queries removes the contents of table emp without deleting its structure?** a.DELETE TABLE emp; b. DROP TABLE emp; c. REMOVE TABLE emp; d.DELETE FROM emp;	1
17	**If ,** Emp1={"salary":10000,"dept":"sales","age":24,"name":"john"} **What will be the output of Emp1.keys() ?** a. (['salary', 'dept', 'age', 'name']) b.dict(['salary', 'dept', 'age', 'name']) c. [10000,'sales',24,'john'] d. dict_keys(['salary', 'dept', 'age', 'name'])	1
18	**What will the output of the following expression ?** 7<4 or 6>3 and not 10==10 or 17>4 a.True b. False c. None d. Null	1
19	**What will be the output of the following Python fragement?** a=100 def fun(p): global a a=a*10 print(a,"#",p) fun(10) print(a) a. 1000 # 10 b. 10 # 1000 c.1000 # 10 d. 1000 # 10 10 1000 10 1000	1
	Q20 and Q21 are Assertion(A) and Reason(R) 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. d) A is False but R is True.	1

20	**Assertion (A):** A try block can have multiple except statements. **Reason (R):** The code executes all the matching exception	1
21	**Assertion (A)** : Unique key constraint defined on a column cannot have NULL values. **Reason (R)** : An attribute identified as the Primary key cannot have DUPLICATE values.	1
	Section-B (7 x 2 = 14 Marks)	
22	**Rewrite the following code after removing all syntax error(s). Underline each correction done in the code.** p=15 for c in range(0,p) If c%4==0: print (c*4) Elseif c%5=0: print (c+3) else: print(c+10)	2
23	**Write the Built -in Functions for the following statements.** (i) To insert an element 20 at the Third position, in the list L1. (ii) To delete an element 10 from a list. Or **Predict the output of the following Python code:** S= "Viksit Bharat!" P=S.split("i") print(len(P)) print(P[-1])	2

24	**Predict the output of the Python code given below:**
	def Gamma(N):
	while N:
	a=N.pop()
	if a%4>2:
	print(a,end='#')
	else:
	break
	NUM=[19,25,12,43,35]
	Gamma(NUM)
	print(NUM)
	OR
	Predict the output of the Python code given below:
	T1 = tuple("Warangal@25")
	T2,new_list =T1[-10:7],[]
	for i in T2:
	if i not in 'aeiou':
	j=T1.index(i)
	new_list+=[j]
	print(new_list)
		2

25	**Write the suitable SQL queries for the following** i. To delete a primary key from a table **Emp** ii. To open a database named **SCHOOL.** **OR** b. Differentiate between count( ) and count(*) in SQL with a suitable example.	2

34 **Write the SQL queries (a) to (d) based on the relations Teacher and Placement.** 4

Teacher

T_ID	Name	Age	Department	Salary	Gender	DOJ
10	Srikanth	40	Computer Sci.	78000	Male	2010-07-29
11	Shilpa	35	Mathematics	56000	Female	2015-02-20
12	Manushri	30	Arts	45000	Female	2017-05-05
13	Sai Sathvik	32	Computer Sci.	72000	Male	2016-10-20
14	Narsimha	50	Arts	85000	Male	2007-01-30
15	Srinivas	45	Computer Sci.	76000	Male	2008-05-21
16	Srilatha	42	History	60000	Female	2011-09-15

Placement

PID	Department	City
101	Computer Sci.	Hyderabad
102	Mathematics	Bangalore
103	Arts	Chennai
104	History	Mumbai

a) To display teacher names and their salaries whose names ending with letter 'a'.
b) To display name of the teachers, department and City from the above tables of female teachers.
c) To increase the salary of computer science department teachers by 5%.
d) To display all details of teachers with their placement from the above tables.

OR

To display minimum salary and maximum salary in each department.

35 A MYSQL database named ITEMDB contains a table ITEMS having the following attributes 4

Itemno - int(10)
Itemname - varchar(20)
Price - float
Qty - int(10)

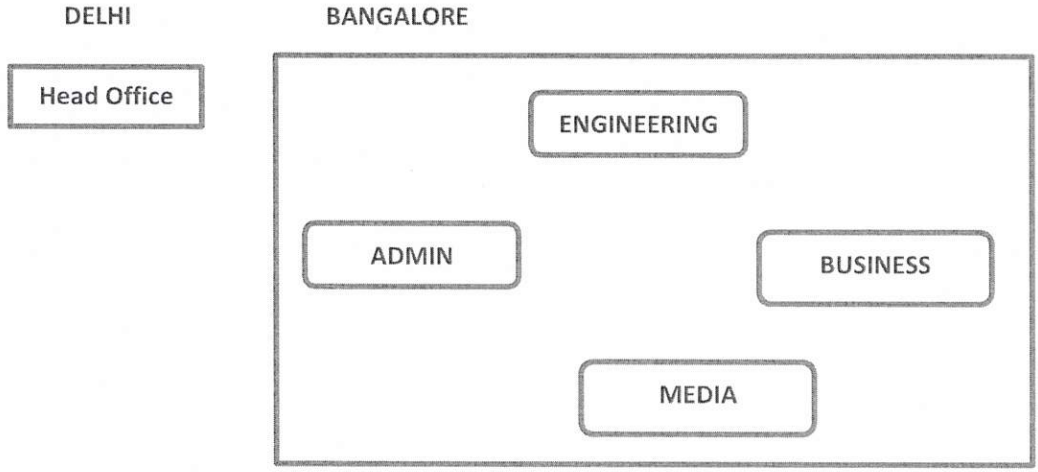
Write a Python program to display all records from the ITEMS table where Price is greater than 500.

Consider the following details to establish Python-MySQL connectivity:
Host: **localhost**, User: **root**, Password: **Pencil**

Section-E (2 X 5 = 10 Marks)

36 Mr. Srikanth, IT developer of a company, requires to maintain records of employees in the format [E_ID, E_Name, Desig, Salary]. 5
Ex: [[101,"Ravi","PGT",98000],[102,"Roja",TGT",89000],.....]
Write Python functions to:
i. **Add_emp():-**to input data for employees and write it to a binary file EMP.DAT.
ii. **Update_sal():-**to increase salary of all PGT's by 10% and update it in EMP.DAT.

37	ABC company is an educational institution. It is planning to setup its campus at Bangalore with its head office at Delhi. The Bangalore campus has 4 buildings – ADMIN, ENGINEERING,BUSINESS and MEDIA.	5



Block to Block distances (in Mtrs.):

FROM	TO	DISTANCE
ADMIN	ENGINEERING	65 m
ADMIN	BUSINESS	90 m
ADMIN	MEDIA	60 m
ENGINEERING	BUSINESS	45 m
ENGINEERING	MEDIA	70 m
BUSINESS	MEDIA	55 m
DELHI HEAD OFFICE	CHENNAI CAMPUS	2175 m

No.of Computers in each of the blocks/Center is as follows:

ADMIN	90
ENGINEERING	65
BUSINESS	40
MEDIA	12
DELHI HEAD	30

a. Suggest the most suitable place (i.e Building) to house the server of this organization with a suitable reason.
b. What network type (out of LAN,MAN,WAN) for connecting Head office to Bangalore office?
c. Suggest an efficient device from the following to be installed in each of the building to connect all the computers.
   i.Gateway ii. Hud/Switch iii.Repeater iv.Modem
d. Suggest and draw a cable layout of connections between the buildings in Bangalore office.
e. Which wireless medium can be used to connect the head office at DELHI with the campus in BANGALORE.

OR

Which protocol is required to transfer the files from head office to Bangalore office.