ADITYA VIDYASHRAM RESIDENTIAL SCHOOL PUDUCHERRY
REVISION EXAMINATION-2 (2020-2021)
COMPUTER SCIENCE (083)

DATE: 20.11.2020   **CLASS: XII-ALL**
Time: 3 Hours   **M. Marks: 70**

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.

2. Both Part A and Part B have choices.

3. Part-A has 2 sections:

a. Section – I is short answer questions, to be answered in one word or one line.

b. Section– II has two case studies questions. Each case study has 4 case-based sub-parts. An examinee is to attempt any 4 out of the 5 subparts.

4. Part - B is Descriptive Paper.
5. Part- B has three sections
a. Section-I is short answer questions of 2 marks each in which two question have internal options.
b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Q. No.	Part-A	Marks
	SECTION - I	
	Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.	
1.	Central computer which is powerful than other computers in the network is called as a. client.　　　　b. Server.　　　　c. Hub.　　　　d. Switch	1
2.	Hub is a _____device a. Broadcast.　　b. Unicast.　c. Multicast　　d. None of the above	1
3.	Which topology requires a multipoint connection on a single cable?	1

4.	The device that can opreate in a place of a hub is a. Bridge b. Router. c. Gateway. d. Switch	1
5.	Network device which connects dissimiler networks (different protogal) a. Hub. b. Router. c. Bridge. d. Gateway	1
6.	The internet is an example of a. LAN. b.MAN. c. WAN. d. All of the above	1
7.	A network having a span with in a building is called a _____	1
8.	Write TRUE or FALSE: Big networks can be of peer-to-peer types.	1
9.	Expand the following: PPP	1
10.	Data is converted in a form so as to travel over telephone lines using this device a) Modam. b. Hub. c. Switch. d. Router	1
11.	Say true or false for the following: Repeater and Router precisely do the same.	1
12.	Which of the following is a SQL aggregate function? a. Left. b. Avg. c. Join. d. Len	1
13.	Function count () in SQL is a/an _____function.	1
14.	Columns can be used sorted in descending order by using the SQL keyword a. Asc. b. dsc. c. Deac. d.desc	1
15.	The SQL Built-in function _____ computes the number of rows in a table.	1
16.	Which of the following remove the data in a table? a. Remove. b. Drop. c. Delete. d. All of the above	1
17.	Which command helps to open the database for use? a. Use. b. Open c. Distinct d. create	1
18.	The _____allows us to perform tasks related to data manipulation. a. DDL. b. DML. c. TCL d. None of the above	1
19.	Write true or false for the following: UPDAGE TABLE command is used to modify the structure of the table	1
20.	The default order of ORDER BY clause is _____.	1

21.	Patterns in MySQL are described using two special wild card characters such as _____and _____.	1

Section-II

Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark

22.	A departmental store MyStore is considering to maintain their inventory using SQL to store the data. As a database administer, Abhay has decided that : • **Name of the database - mystore** • **Name of the table - STORE** • **The attributes of STORE are as follows:** **ItemNo - numeric** **ItemName – character of size 20** **Scode - numeric** **Quantity – numeric**	

Table : STORE

ItemNo	ItemName	Scode	Quantity
2005	Sharpener Classic	23	60
2003	Ball Pen 0.25	22	50
2002	Get Pen Premium	21	150
2006	Get Pen Classic	21	250
2001	Eraser Small	22	220
2004	Eraser Big	22	110
2009	Ball Pen 0.5	21	180

	(a) Identify the attribute best suitable to be declared as a primary key	**1**
	(b) Write the degree and cardinality of the table STORE.	**1**
	(c) Insert the following data into the attributes ItemNo, ItemName and SCode respectively in the given table STORE ItemNo = 2010, ItemName = "Note Book" and Scode = 25	**1**
	(d) Abhay want to remove the table STORE from the database MyStore. Which command will he use from the following:	**1**

	a) DELETE FROM store; b) DROP TABLE store; c) DROP DATABASE mystore; d) DELETE store FROM mystore;	
	e) Now Abhay wants to display the structure of the table STORE, i.e, name of the attributes and their respective data types that he has used in the table. Write the query to display the same.	**1**
23	Answer the following based on Client table

Table: Client

C_ID	ClientName	City	P_ID
1	Cosmetic Shop	Delhi	FW05
6	Total Health	Mumbai	BS01
12	Live Life	Delhi	SH06
15	Pretty One	Delhi	FW05
16	Dreams	Bengaluru	TP01
14	Expressions	Delhi	NULL
	(a) Identifytheattributebestsuitabletobedeclaredasaprimarykey	**1**
	(b) Writethecardinalityand degree ofthetable Client.	**1**
	(c) Insertthefollowingdataintotheattributes Cid, and City respectivelyinthegiventable Client.
Cid =20, City ="Puducherry".	**1**
	(d)Mani Sharma wanttoremove data from thetable Cient fromthedatabase Product .Whichcommandwillheusefromthefollowing:
a)DELETEFROM client;
b)DROPTABLE client;
c)DROPDATABASE Product;
d)DELETEstoreFROM Product;	**1**
	e) Which field contains only numeric values in Client table.	**1**
	PART B	
	Section-I	
24.	List the parameters are used in connect() function when SQL connected with PYTHON.
(OR)
What is the use of fetchone() and rowcount attribute.	2
25	List logiccal operator used in SQL. Write the query for any one logical opearor.	2

26	Write the difference between Char and Varchar in SQL with example.	2
27	Write the syntax and example for SELECT command in SQL.	2
28	Expand the following terms a. WLL. b. ASP. c. LAN. d. HTTP	2
29	List any two transmission medium for wired and wireless connection.	2
30	What is the difference between 3G and 4G technology?**(Any 2)**	2
31	How many switching techniques are there? Explain any one.	2
32	Expand the following terms a. SMTP. b. CDMA. c. FTP. d. VoIP	2
33	What is the use of DISTINCT keyword in SQL? Give example. **OR** Differentiate between Web server and web browser. Write any two popular web browsers.	2
	SECTION - II	

34.	Give the output of the following sql statement based on table GRADUATE:	3

Table: GRADUATE

S.NO	NAME	STIPEND	SUBJECT	AVERAGE	DIV
1	KARAN	400	PHYSICS	68	I
2	DIWAKAR	450	COMP. Sc.	68	I
3	DIVYA	300	CHEMISTRY	62	I
4	REKHA	350	PHYSICS	63	I
5	ARJUN	500	MATHS	70	I
6	SABINA	400	CHEMISTRY	55	II
7	JOHN	250	PHYSICS	64	I
8	ROBERT	450	MATHS	68	I
9	RUBINA	500	COMP.Sc.	62	I
10	VIKAS	400	MATHS	57	II

i) Select MIN(AVERAGE) from GRADUATE where SUBJECT="PHYSICS";   ii)Select SUM(STIPEND) from GRADUATE WHERE div='II';   iii)Select AVG(STIPEND) from GRADUATE where AVERAGE>=65;

35.	**Expand the following:** **a. FTP. b. HTML. c.WAN.** **d. IP e. XML f. SMS.** **(OR)** **List advantage and drawback of Star and Bus topology(2 points)**	3

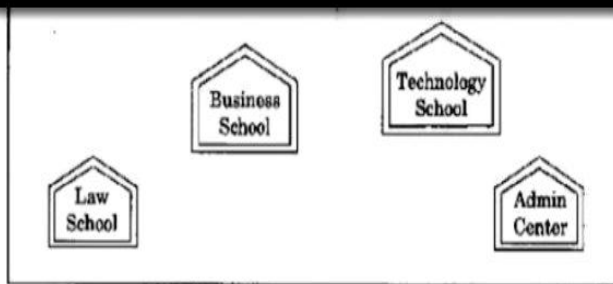|	Give the output of the following SQL queries:	
	Table: CARDEN	
		Ccode	CarName	Make	Color	Capacity	Charges		
		501	A-Star	Suzuki	RED	3	14		
		503	Indigo	Tata	SILVER	3	12		
36.		502	Innova	Toyota	WHITE	7	15		3
		509	SX4	Suzuki	SILVER	4	14		
		510	C Class	Mercedes	RED	4	35		
	i) SELECT COUNT(DISTINCT Make) FROM CARDEN; ii) SELECT MAX(Charges),MIN(Charges) FROM CARDEN; iii)SELECT COUNT(*),Make FROM CARDEN order by make;	

.

Case Study based questions

Great Studies University is setting up its Academic schools at sunder Nagar and planning to set up a network. The university has 3 academic schools and one administration center as shown in the diagram below:

Center to center distance between various buildings is as follows:

Law School to Business School	60m
Law School to Technology School	90m
Law School to Admin Center	115m
Business School to Technology School	40m
Business School to Admin Center	45m
Technology School to Admin Center	25m

Number of computers in each of the schools/Center is follows:

Law School	25
Technology School	50
Admin Center	125
Business School	35

37. 3

i)Suggestthemostsuitableplace(i.e.School/Center)toinstallthe serverofthisuniversitywithsuitablereason

ii)Whichdevicewillyousuggesttobeplaced/installedineachoftheseschool/

centertoefficientlyconnectallthecomputerswithintheseschool/center?

iii)Theuniversityisplanningtoconnectitsadmissioncenterintheclosestbig city,whichismorethan350KMfromtheUniversity.Whichtypeofnetworkout ofLAN,MAN,WANwillbeformed?Justifyyouranswer.
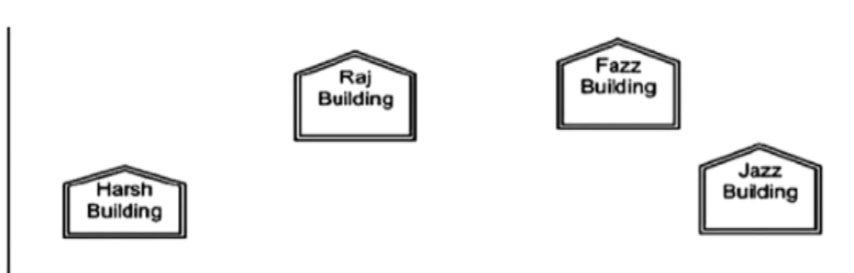(OR)
Definethefollowing:
a.Primarykey   b.Alternatekey   c.Record.

SECTION - III

38

Ravya industries has setup its new center at kakadeo nagar for its office and web based activities. The company compound has 4 buildings as shown in the diagram below:

Center to center distances between various buildings is as follows:

Harsh Building to Raj Building	50 m
Raj Building to Fazz Building	60 m
Fazz Building to Jazz Building	25 m
Jazz Building to Harsh Building	170 m
Harsh Building to Fazz Building	125 m
Raj Building to Jazz Building	90 m

Number of Computers in each of the buildings is follows:

Harsh Building	15
Raj Building	150
Fazz Building	15
Jazz Bulding	25

(i)Suggest the most suitable place (i.e. School/Center) to install the server of this university with suitable reason

ii)Suggest an ideal layout for connecting these school/center for a

5

wired connectivity

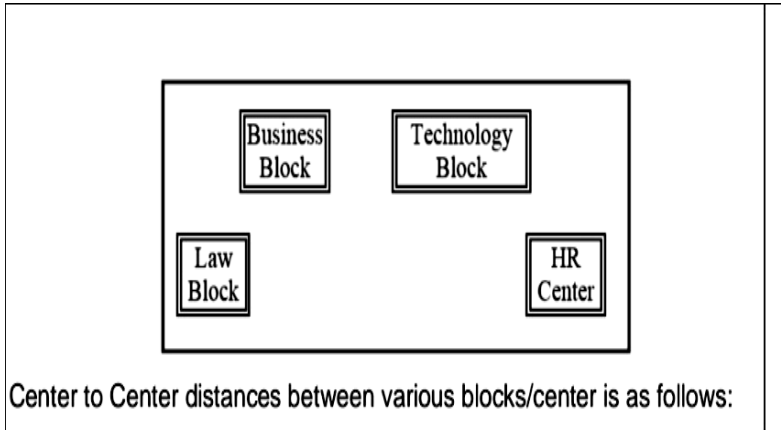(iii)Suggest the placement of following devices with suitable reason:

a) Switch

(iv)The organization is planning to link its sale counter situated in various parts of the same city, which type of network out of LAN, MAN or WAN will be formed? Justify

(v) which topology is best suit for this network?

<div align="center">(OR)</div>

MyPace University is setting up its academic blocks at Naya Raipur ànd is planning to set up a network. The University has 3 academic blocks and one Human Resource Center as shown in the diagram below:

Center to Center distances between various blocks/center is as follows:

Law Block to business Block	40m
Law block to Technology Block	80m
Law Block to HR center	105m
Business Block to technology Block	30m
Business Block to HR Center	35m
Technology block to HR center	15m

Number of computers in each of the blocks/Center is as follows:

Law Block	15
Technology Block	40
HR center	115
Business Block	25

a) Suggest the most suitable place (i.e., Block/Center) to install the server of this University with a suitable reason.

b) Suggest an ideal layout for connecting these blocks/centers for a wired connectivity.

c) Which device will you suggest to be placed/installed in each of these blocks/centers to efficiently connect all the computers within these blocks/centers.

d) Suggest the placement of a Repeater in the network with justification.

e) The university is planning to connect its admission office in Delhi, which is more than 1250km from university. Which type of network out of LAN, MAN, or WAN will be formed? Justify youranswer.

39.

Write the SQL commands for(a)to (e).

Table: SPORTS

StudentNO	Class	Name	Game1	Grade1	Game2	Grade2
10	7	Sammer	Cricket	B	Swimming	A
11	8	Sujit	Tennis	A	Skating	C
12	7	Kamal	Swimming	B	Football	B
13	7	Venna	Tennis	C	Tennis	A
14	9	Archana	Basketball	A	Cricket	A
15	10	Arpit	Cricket	A	Athletics	C

a)Display the names of the students who have grade 'C' in either Game1 or Game2 or both

b) Display the number of students getting grade 'A' in Cricket.

c) Display the names of the students who have the same game for both Game1 and Game2. d) Display the game1 taken up by the students, whose name starts with 'A'. e) To display different classes in Sports table.

5

40.

Write the SQL commands for (a) to (e) .

Table: GRADUATE

S.NO	NAME	STIPEND	SUBJECT	AVERAGE	DIV
1	KARAN	400	PHYSICS	68	I
2	DIWAKAR	450	COMP. Sc.	68	I
3	DIVYA	300	CHEMISTRY	62	I
4	REKHA	350	PHYSICS	63	I
5	ARJUN	500	MATHS	70	I
6	SABINA	400	CHEMISTRY	55	II
7	JOHN	250	PHYSICS	64	I
8	ROBERT	450	MATHS	68	I
9	RUBINA	500	COMP.Sc.	62	I
10	VIKAS	400	MATHS	57	II

5

a) List the names of those students who obtained DIV I sorted by NAME.

b)Display a report, listing NAME, STIPEND, SUBJECT and amount ofstipend received in a year assuming that the STIPEND is paid every month.

c)To count the number of students who are either PHYSICS or COMPUTER SC graduates.

d) To insert a new row in the GRADUATE table: 11,"KAJOL", 300, "computer sc", 75, II

e) Write a query to display highest stipend from GRADUATE table.

Practical questions: (2 x 5=10)

1.
writeamenudrivenprogramtoimplementstackoperationusingalist.Eachnodecontaining bookid,booknameandbookprice.

2. **writeamenudrivenprogramtoimplementqueueoperationusingalist.**