Roll Number		

SET **A**

INDIAN SCHOOL MUSCAT
SECOND PRE - BOARD EXAMINATION
COMPUTER SCIENCE(Code-083)

CLASS: XII TERM 2 Max.Marks: 35

13-04-2022 Time:2 Hrs

MARKING SCHEME

SET A	QN.NO	VALUE POINTS **Section-A** **Each question carries- 2 marks**	MARKS SPLIT UP
	1	A stack is a basic data-structure where insertion and deletion of data takes place at one end called the top of the stack(LIFO) push – Insertion of elements in the stack. pop - Deletion of element from the top of the stack.	1 + 1 = 2
	2	i) XML – eXtensible Markup Language SMTP - Simple Mail Transfer Protocol ii) Wired medium- Telephone Line, Coaxial Cable, Fiber Optic Cable. Wireless medium- Radio waves, Microwave, Infrared wave.	1 + 1 = 2
	3	Primary Key– A set of one or more attribute that can identify a record uniquely in the relation is called Primary Key. Candidate Key- In a table there can be more than one attribute which contains unique values. These columns are known as candidate key as they are the candidate for primary key.	1 + 1 = 2
	4	a) 8 Records b) Tuple	1 + 1 = 2
	5	a) Fl_No No_Flight --- AM812 3 b) Fl_No Starting --- IC301 MUMBAI IC302 DELHI c) Fl_No Ending --- IC301 DELHI IC799 DELHI	½ x 4 = 2

		d) Ending COUNT(*) ---------- DELHI 2 MUMBAI 2 BENGALURU 1 KOCHI 1	
	6	i) CREATE DATABASE DEPT ;	1 + 1 = 2
		ii) NULL means missing information. NULL is neither equal to 0 nor space.	
	7	a) Cardinalty – 5 , Degree – 4 b) Drinkcode and Dname can be primary key. The values appearing in the columns Drinkcode and Dname does not have any duplicate values. **OR** a) Drinkcode and Dname are candidate keys. The values appearing in the columns Drinkcode and Dname does not have any duplicate values. b) Drinkcode is the foreign key (Drinkcode is present in the table SOFTDRINK and it is primary key there).	1 + 1 =2
		Section-B **Each question carries- 3 marks**	

	8	**# Question No 8 (first option)**
		M = [92,80,73,77,98,95]
		def PUSH(S,M):
		S.append(M)
		def POP(S):
		if S!=[]:
		return S.pop()
		else:
		return None
		ST=[ ]
		for k in M:
		if k> 85:
		PUSH(ST,k)
		while True:
		if ST!=[]:
		print(POP(ST),end=" ")
		else:
		break
		
		Sample Output of the code should be:
		95 98 92
		
		OR
		
		N = [12, 13, 34, 45, 10]
		
		def PUSH(S,N):
		S.append(N)
			(3)
			
			1 Mark for PUSH () Function.
			
			1 Mark for POP() Function.
			
			1 Mark for correct function calls and displaying the output.

		def POP(S):
		  if S!=[]:
		  return S.pop()
		  else:
		  return None
		
		ST=[ ]
		for k in N:
		  if k%2==0:
		  PUSH(ST,k)
		while True:
		  if ST!=[]:
		  print(POP(ST),end=" ")
		  else:
		  break
		
		Sample Output of the code should be:
		  10 34 12	

	9	i) ALTER TABLE CUSTOMER MODIFY ADDRESS VARCHAR(50) ; ii) Constraints are the conditions that can be enforced on the attributes of a relation. The constraints come in play whenever we try to insert, delete or update a record in a relation. **DEFAULT** constraint is used to specify a default value to a column of a table automatically. This default value will be used when user does not enter any value for that column. e.g. balance decimal(6,2) default 0,	1 1 + 1 = 2

	10	USE EXAM ;
		CREATE TABLE RESULTS(STU_ID INTEGER Primary Key,
		  FNAME VARCHAR(25) NOT NULL ,
		  LNAME VARCHAR(25),
		  EXAM_ID INTEGER ,
		  SCORE DECIMAL(10,2)) ;
			1 Mark for correctly accessing database.
			
			2 Marks for correctly creating the table.

		Section-C **Each question carries- 4 marks**	

	11	a) SELECT CARNAME FROM CARDEN WHERE COLOUR= 'SILVER' ;
		
		b) SELECT CARNAME, MAKE, CAPACITY FROM CARDEN
		  ORDER BY CAPACITY DESC ;
		c) SELECT MAX(Charges) FROM CARDEN ;
		d) SELECT CLNAME, CARNAME FROM
		  CARDEN, CLIENT WHERE CARDEN.CODE = CLIENT.CODE ;
			1 +1+1+1= 4

	12	i) Star Topology any one advantage • Compared to Bus topology it gives far much better performance • Easy to connect new nodes or devices • Centralized management. It helps in monitoring the network Star Topology any one disadvantage • If central device fails whole network goes down • The use of hub, a router or a switch as central device increases the overall cost of the network • Performance and as well number of nodes which can be added in such topology is depended on capacity of central device **OR** Bridge(Any one point) • Bridges are used to connect two LAN or two segment of the same LAN or divide a large network into smaller segments. Connecting LANs must have the same Protocol. • Unlike repeaters, bridges contain logic that allows them to keep traffic for each segment separate. This way bridges provide some security to the individual segments. Gateway(Any one point) • A Gateway is a device that connects dissimilar networks. It establishes connection between LAN and External Network with different structure. • A Gateway is a protocol converter that connects two dissimilar networks having different protocols i.e. It can accept a packet formatted for one protocol (e.g. AppleTalk) and convert it to a packet formatted for another protocol (e.g. TCP/IP) before forwarding it. ii) a) Node(Workstations) The term node refers to computers that are attached to a network and are seeking to share resources. b) Domain Name It is a way to identify and locate the computers connected to the internet. It must be unique.	1 +1 = 2 1 + 1 = 2
	13	b) The most suitable place /building to house the server of this organization would be building Gamma, as this building contains the maximum number of computers(125), thus decreasing the cabling cost for most of the computers as well as increasing the efficiency of the maximum computers in the network. Also housing the server here will make the most of the traffic local, which is required by 80-20 network design rule.	1+1+ 1+1 = 4

c) i) Repeater should be placed between Alpha and Gamma buildings as the distance between them is more than 70 m.

ii) Hub/Switch are needed in all the buildings to interconnect the group of cables from different computers in each building.

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d) The most economic way to connect it with a reasonable high speed would be to use radio wave transmission, as they are easy to install, can travel long distances and penetrate buildings easily, so they are widely used for communication, both indoors and outdoors. Radio waves also have the advantage of being omni directional and can travel in all directions from source, so that the transmitter and receiver do not have to be carefully aligned physically.

a) BUS Layout.

Layout(Total Length = 165 m)