TERM2: SAMPLE PAPER – 1

SUBJECT: COMPUTER SC. (083) - XII

Maximum Marks: 35   Time: 2 hours

General Instructions

- The question paper is divided into 3 sections – A, B and C
- Section A, consists of 7 questions (1-7). Each question carries 2 marks.
- Section B, consists of 3 questions (8-10). Each question carries 3 marks.
- Section C, consists of 3 questions (11-13). Each question carries 4 marks.
- Internal choices have been given for question numbers 7, 8 and 12.

Section -A

Each question carries 2 marks

Q1. Evaluate the following postfix expression using stack and show the contents of stack after execution of each expression.   2

$$120, 45, 20, +, 25, 15, −, +, *$$

Q2. (i) Expand the following: 1

POP , XML

(ii) Beauty lines fashion incorporation is a fashion company with design unit and market unit at Bangalore 135m away from each other. The company recently connected their LANs using Ethernet cable to share the stock related information. But after joining their LAN's they are not able to show the information due to loss of signal in between. So, Which device should you suggest to be installed for a smooth communication?   1

Q3. What is the purpose of GROUP BY clause in MySQL? How is it different from ORDER BY clause?

2

Q4. (i) Which method is used to create a connection between the MySQL database and Python? 1

(ii) Which method returns the next row from the result set as tuple?   1

Q5. Write the output of the queries (a) to (d) based on the table, Graduate given below

SID	Name	Stipend	Subject	Average	Div
1	Karan	400	Physics	68	1
2	Divakar	450	Computers	68	1
3	Divya	300	Chemistry	62	2
4	Arun	350	Physics	63	1
5	Sabina	500	Mathematics	70	1
6	John	400	Chemistry	55	2
7	Robert	250	Physics	64	1
8	Rubina	450	Mathematics	68	1
9	Vikas	500	Computers	62	1
10	Mohan	300	Mathematics	57	2

(a) SELECT LEFT(NAME,3) FROM Graduate WHERE SNO>7;

(b) SELECT Name, Stipend FROM Graduate WHERE Subject="Chemistry" OR Subject="Physics";

(c) SELECT * FROM Graduate WHERE Subject LIKE 'C%' AND Average=68;

(d) SELECT Name FROM Graduate WHERE DIV=2;

Q6. Is it compulsory to provide values for all columns of a table while adding records? Give an example.　　　　　　　　　　　　　　　　　2

Q7. Consider the following tables STORE and answer the questions:　　　　　2

Table: STORE

ItemNo	Item	Scode	Qty	Rate	LastBuy
2005	Sharpener Classic	23	60	8	31-JUN-09
2003	Balls	22	50	25	01-FEB-10
2002	Gel Pen Premium	21	150	12	24-FEB-10
2006	Gel Pen Classic	21	250	20	11-MAR-09
2001	Eraser Small	22	220	6	19-JAN-09
2004	Eraser Big	22	110	8	02-DEC-09
2009	Ball Pen 0.5	20	180	18	03-NOV-09

(a) Identify the degree and cardinality of the table STORE.
(b) Which field should be made the primary key? Justify your answer.

OR

(a) Identify the candidate key(s) from the table STORE.

(b) Consider the table LOCATION given below:

Table: LOCATION

SCODE	LOCATION
20	SOUTH
21	NORTH
22	EAST
23	WEST

Which field will be considered as the foreign key if the tables STORE and LOCATION are related in a database?

SECTION – B
Each question carries 3 marks

Q8. Write a function in Python PUSH(Arr), where Arr is a list of numbers. From this list push all numbers divisible by 5 into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.

OR

A linear stack called status contains the following information :

(i) Phone number of Employee

(ii) Name of Employee

Write the following methods to perform given operations on the stack status :

(a) Push_element ( ) To Push an object containing Phone number of Employee and Name of Employee into the stack.

(b) Pop_element ( ) To Pop an object from the stack and to release the memory.

Q9.

(i) Rakesh wants to increase the price of some of the products by 20% , of his store whose price is less than 200. Assuming the following structure , what will be the query?

| Pno | Pname | Quality | Price | | 1 |

(ii) Differentiate between DDL & DMLcommands.

Identify DDL & DML commands from the following: 2

(UPDATE, SELECT, ALTER, DROP)

Q10. Mr Naman has to create a database named **School** in MYSQL. He now needs to create a table named **LIBRARY** in the database to store the records of various books. The table **LIBRARY** has the following structure: 2

Field	Type	Constraint
Book_no	Integer(4)	Primary key
Title	Varchar(40)	Not Null
Author	Varchar(30)	
Publisher	Varchar(30)	
Pages	Integer(4)	
Date_of_pub	Date	

Help him to complete the task by suggesting appropriate SQL commands.

Section C

Each question carries 4 marks

Q11. Consider the following tables ACTIVITY and COACH. Write SQL commands for the following statements.

TABLE : ACTIVITY

Acode	ActivityName	Stadium	ParticipantsNum	PriceMoney	ScheduleDate
1001	Relay 100 x 4	Star Annex	16	10000	23-Jan-04
1002	High Jump	Star Annex	10	12000	12-Dec-03
1003	Shot Put	Super Power	12	8000	14-Feb-04
1005	Long jump	Star Annex	12	9000	01-Jan-04
1008	Discuss Throw	Super Power	10	15000	19-Mar-04

TABLE : COACH

Pcode	Name	Acode
1	Ahmad Hussain	1001
2	Ravinder	1008
3	Janila	1001
4	Naaz	1003

a) To display the names of all activities with their Acodes in descending order.
b) To display sum of PriceMoney for the Activities played in each of the Stadium separately.
c) To display the coach's names and Acodes in ascending order of Acode from the table COACH.

d) To display the content of all activities for which ScheduleDate is earlier than 01-01-2004 in ascending order of ParticipantsNum.
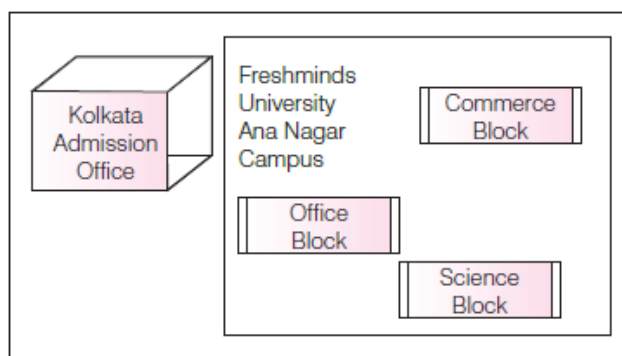
Q12.
(i) Write one advantage of bus topology of network. Also, illustrate how four computers can be connected with each other using star topology of network?   2

<center>**OR**</center>

(ii) Write one advantage and one disadvantage of using optical fibre cable.   2

Q13. Freshminds University of India is starting its first campus in Ana Nagar of South India with its centre admission office in Kolkata. The university has three major blocks comprising of Office block, Science block and Commerce block is in 5 km area campus.

As a network expert, you need to suggest the network plan as per (i) to (iv) to the authorities keeping in mind the distance and other given parameters.   4

Expected number of computers to be installed at various locations in the university are as follows:	
Office Block	10
Science Block	140
Commerce Block	30
Kolkata Admission Office	8

Expected wire distancebetween various locations	
Office Block to Science Block	90 m
Office Block to Commerce Block	80 m
Science Block to Commerce Block	15 m
Kolkata Admission Office to Ana Nagar Campus	450 km

(i) Suggest the authorities, the cable layout amongst various blocks inside university campus for connecting the blocks.

(ii) Suggest the most suitable place (i.e. block) to house the server for this university with a suitable reason.

(iii) Suggest an efficient device form the following to be installed in each of the block to connect all the computers.

(a) Modem   (b) Switch   (c) Gateway

(iv) University is planning to connect its campus in Kolkata which is more than 100 km. Which type of network will be formed?