Marking Scheme

COMPUTER SCIENCE (Code : 083)

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

Q. No	Part No.	Section -A Each question carries 2 marks		
		Question	**Marking Instructions**	**Marks**
1.		Characteristics of Stacks: • It is a LIFO data structure • The insertion and deletion happens at one end i.e. from the top of the stack	1 mark for each point	(2)
2.	(i)	SMTP : Simple Mail Transfer Protocol XML: Extensible Mark Up Language	½ mark for each correct expansion	(1)
	(ii)	Wired- optical fibre Wireless – microwave	½ mark for each correct answer	(1)
3.		char(n): • stores a fixed length string between 1 and 255 characters • if the value is of smaller length, adds blank spaces • some space is wasted varchar(n) : • stores a variable length string • no blanks are added even if value is of smaller length • no wastage of space	1 mark for each correct difference (minimum 2 differences to be given)	(2)

[1]

4.		(a) One record (b) tuple	1 mark for each correct answer	(2)
5.		(a) 29 (b) 19-Jul-2021 (c) <table><tr><td>T006</td><td>Console Table</td><td>17-Nov-2019</td><td>15000</td><td>12</td></tr></table> (d) 10-Mar- 2020 17-Nov-2019	½ mark for each correct output	(2)
6.	(i)	SHOW TABLES;	1 mark for correct answer	(1)
	(ii)	Equi- join: • The join in which columns from two tables are compared for equality • Duplicate columns are shown Natural Join • The join in which only one of the identical columns existing in both tables is present • No duplication of columns	1 mark for correct difference (Any one point may be given)	(1)
7.		(a) Degree: 5 Cardinality: 6 (b) MOVIEID should be made the primary key as it uniquely identifies each record of the table.	½ mark each for correct degree and cardinality ½ mark for correct field and ½ mark for justification	(2)

		OR		
		(a) MOVIEID and TITLE	½ mark for each correct field name	
		(b) MOVIEID	1 mark for correct answer	

SECTION – B
Each question carries 3 marks

| 8. | | ```
# Question No 8 (first option)
R={"OM":76, "JAI":45, "BOB":89,
"ALI":65, "ANU":90, "TOM":82}
def PUSH(S,N):
  S.append(N)
def POP(S):
  if S!=[]:
    return S.pop()
  else:
    return None
ST=[]
for k in R:
  if R[k]>=75:
    PUSH(ST,k)
while True:
  if ST!=[]:
    print(POP(ST),end=" ")
  else:
    break
``` | 1 mark for correct PUSH operation<br><br>1 mark for correct POP operation<br><br>1 mark for correct function calls and displaying the output | (3) |
| | | OR | | |
| | | ```
# Question No 8 (second option)

N=[12, 13, 34, 56, 21, 79, 98, 22,
35, 38]
def PUSH(S,N):
``` | 1 mark for correct PUSH operation | |

[3]

| | | ```
        S.append(N)
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
``` | 1 mark for correct POP operation<br><br>1 mark for correct function calls and displaying the output<br><br><br><br>**Note: Marks to be awarded for any other correct logic given by the student** | |
| 9. | (i) | ```
ALTER TABLE Item
ADD (Discount INT);
``` | 1 mark for correct command | (1) |
| | (ii) | DDL: `DROP TABLE, ALTER TABLE`
DML: `INSERT INTO, UPDATE...SET` | ½ mark for each correct command identified | (2) |
| 10. | | ```
CREATE DATABASE MYEARTH;

CREATE TABLE CITY
(
   CITYCODE CHAR(5)PRIMARY KEY,
   CITYNAME CHAR(30),
   SIZE INT,
   AVGTEMP INT,
   POPULATIONRATE INT,
   POPULATION INT,
);
``` | 1 mark for correctly creating database.<br><br>2 marks for correctly creating the table. | (3) |
| | | **Section C**
Each question carries 4 marks | | |
| 11. | | ```
(a) SELECT AVG(SALARY)
``` | | |

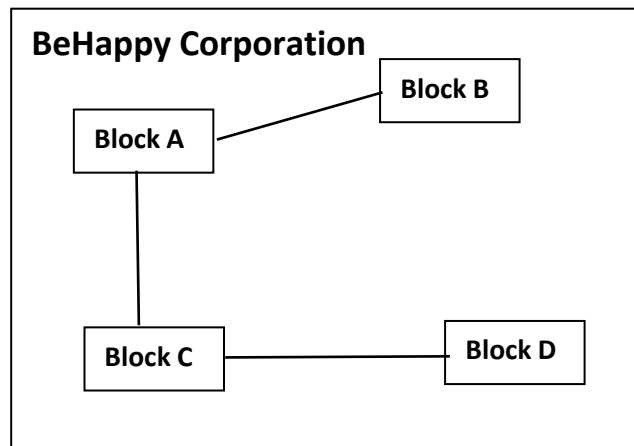|				

		FROM EMPLOYEE
		GROUP BY DEPTID;
		
		(b) SELECT NAME, DEPTNAME
		     FROM EMPLOYEE, DEPARTMENT
		     WHERE
		       EMPLOYEE.DEPTID=
		          DEPARTMENT.DEPTID
		      AND SALARY>50000;
		
		(c) SELECT NAME FROM EMPLOYEE
		     WHERE SALARY IS NULL
		     ORDER BY NAME;
		
		(d) SELECT DISTINCT DEPTID
		     FROM EMPLOYEE;
			1 mark for each correct query	(4)

12.	(i)	Advantages • Ease of service • Centralized control • Easy to diagnose faults • One device per connection Disadvantages • long cable length • difficult to expand • central node dependency OR	½ mark for each correct advantage / disadvantage	(2)
		www: a set of protocols that allow you to access any document on the internet through the naming systems based on URLs **Web hosting**: Web hosting is a service that allows organizations and individuals to post a website or web page onto the server, which can be viewed by everyone on the Internet.	1 mark for each correct definition	
	(ii)	Packet switching: • uses store and forward concept to send messages • no physical path is actually establishes • message is divided into smaller parts, known as packets and then sent forward • tight upper limit on block size • Each data unit knows only the final receiver's address	1 mark for each correct difference (minimum two points should be given)	(2)

		Circuit switching
		  • physical connection is established between sender and receiver
		  • Each data unit knows the entire path from sender to receiver
		  • It does not follow store and forward concept		

13.		(a) **BeHappy Corporation** Block A — Block B Block A — Block C Block C — Block D (b) Repeater : between C and D as the distance between them is 100 mts. Hub/ Switch : in each block as they help to share data packets within the devices of the network in each block (c) WAN. (d) Satellite	1 mark for each correct answer	(4)