

[Total No. of Questions: 02]      Seat No:

[Total No. of Pages: 01]

**G H Raisoni College of Engineering and Management, Pune**

(An Autonomous Institution affiliated to SPPU)

T.Y. B. Tech (Computer Engineering) (Term-Even)

CAE-2 Summer-2023 (2020 Pattern)

**Unstructured Database Management System (UCOL307)**

[Time: 1Hour]

[Max. Marks-15]

*Instructions to the candidates:*

- All questions compulsory.
- Neat diagrams must be drawn wherever necessary.
- Figures to the right indicate full marks.
- Assume suitable data, if necessary.

Que.      Sub  
            Question

CO    L    M

- 1      a)      Covert the below CUSTOMER Relation into document oriented database schema.

CO3    L3    [5]

Cust_Id	Cust_Name	Cust_Addr	Cust_DOB
C01	Madhvi	Pune	12/09/86
C02	Mansi	Mumbai	23/04/94
C03	Neha	Delhi	09/09/96
C04	Nupur	Kolkata	29/05/82
C05	Raima	Patna	05/06/98

OR

- b)      Discuss scale out in Mongo DB in detail. How does scale out occur in Mongo DB?

CO3    L2    [5]

2

a)

Assume there is a collection named users that looks like the one below. How can you get all houses in the "Rabia" neighborhood?

CO2 L3 [5]

```
[
  {
    "_id" : ObjectId("5d011c94ee66e13d34c7c388"),
    "userName" : "Kevin",
    "email" : "kevin@toptal.com",
    "password" : "affdsg342",
    "houses" : [
      {
        "name" : "Big Villa",
        "neighborhood" : "Zew Ine"
      },
      {
        "name" : "Small Villa",
        "neighborhood" : "Rabia"
      }
    ]
  },
  {
    "_id" : ObjectId("5d011c94ee66e13d34c7c387"),
    "userName" : "sherif",
    "email" : "sharief@toptal.com",
    "password" : "67834783ujk",
    "houses" : [
      {
        "name" : "New Mansion",
        "neighborhood" : "Nasr City"
      },
      {
        "name" : "Old Villa",
        "neighborhood" : "Rabia"
      }
    ]
  }
]
```

OR

Assume there is a document with nested arrays that looks like the one below. How can you insert a "room" that has the name "Room 44" and size of "50" for a particular "house" that belongs to this user?

CO2 L3 [5]

```
{
  "_id": "682263",
  "userName" : "sherif",
  "email": "sharief@aucegypt.edu",
  "password": "67834783ujk",
  "houses": [
    {
      "_id": "2178123",
      "name": "New Mansion",
      "rooms": [
```

```
{
  "name": "4th bedroom",
  "size": "12"
},
{
  "name": "kitchen",
  "size": "100"
}
}
```

3 a) Discuss Master-slave, Peer to peer and single server distribution model. CO4 L2 [5]

OR

b) Explain MapReduce architecture with neat diagram. Suppose that Amazon want to calculate the total sale in the year 2020. How do you apply MapReduce in this scenario? CO4 L2 [5]

---

**G H Raisoni College of Engineering and Management, Pune**  
 (An Autonomous Institution affiliated to SPPU)  
 T.Y. B. Tech (Computer Engineering) (Term-V)  
 CAE-II Summer-2023 (2020 Pattern)  
**Machine Learning (UCOL308)**

[Time: 1 Hour]

[Max. Marks-15]

Instructions to the candidates:

1. All questions compulsory.
2. Neat diagrams must be drawn wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data, if necessary.
5. Other Instructions, if any.

Que Sub  
Que.

CO L M

- 1 a) How random forest differs from decision tree? Elaborate with suitable applications. 3 L4 [5]

OR

How Naïve Bayes Classifier works? Elaborate with following dataset.

3 L4 [5]

Weather	Play
Sunny	No
Overcast	Yes
Rainy	Yes
Sunny	Yes
Sunny	Yes
Overcast	Yes
Rainy	No
Rainy	No
Sunny	Yes
Rainy	Yes
Sunny	No
Overcast	Yes
Overcast	Yes
Rainy	No

- b) Calculate the two regression equations of X on Y and Y on X from the data given below, taking deviations from an actual means of X and Y. Estimate the likely demand when the price is Rs.20 3 L3 [5]

Price (Rs.)	15	16	12	13	12	10
Amount Demanded	43	37	45	43	38	40

OR

Consider following dataset with one response variable y and two predictor variables  $X_1$  and  $X_2$ :

3 L3 [5]

y	X <sub>1</sub>	X <sub>2</sub>
140	60	22
155	62	25
159	67	24
179	70	20
192	71	15
200	72	14
212	75	14
215	78	11

Apply steps to fit a multiple linear regression model to this dataset.

- 2 a) Write K-mean clustering algorithm and Elaborate it with example.

4 L3 [5]

OR

Implement KNN for following problem:

4 L4 [5]

There is a car manufacturer company that has manufactured a new SUV car. Company wants to give ads for users who are interested in buying the SUV car.

User ID	Gender	Age	EstimatedSalary	Purchased
15624510	Male	19	19000	0
15810944	Male	35	20000	0
15668575	Female	26	43000	0
15603246	Female	27	57000	0
15804002	Male	19	76000	0
15728773	Male	27	58000	0
15598044	Female	27	84000	0
15694829	Female	32	150000	1
15600575	Male	25	33000	0
15727311	Female	35	65000	0
15570769	Female	26	80000	0
15606274	Female	26	52000	0
15746139	Male	20	86000	0
15704987	Male	32	18000	0
15628972	Male	18	82000	0
15697686	Male	29	80000	0
15733883	Male	47	25000	1
15617482	Male	45	26000	1
15704583	Male	46	28000	1
15621083	Female	48	29000	1
15649487	Male	45	22000	1
15736760	Female	47	49000	1



[Total No. of Questions: 02]

Seat No:

[Total No. of Pages: 02]

**G H Raisoni College of Engineering and Management, Pune**

(An Autonomous Institution affiliated to SPPU)

T.Y. B. Tech (Computer Engineering) (Term-Even)

CAE-2 Summer-2023 (2020 Pattern)

**Cyber Ethics and Moral Responsibility (UHUL308)**

[Time: 1Hour]

[Max. Marks-15]

*Instructions to the candidates:*

- All questions compulsory.
- Neat diagrams must be drawn wherever necessary.
- Figures to the right indicate full marks.
- Assume suitable data, if necessary.

Que.	Sub Question		CO	L	M
1	a)	Discuss ethical code of conduct for cyber peace and security to be observed by :  1. IT Engineers 2. Business Owners	2	L1	[5]

OR

		Emphasize the importance of cyber ethics with respect to spamming and cyber bullying.	2	L2	[5]
1	b)	The student system administrators who help run the school's computer systems are put in a situation where they have additional responsibilities. However, the teachers who work with the students need to be able to trust those students to act in a mature and responsible manner. Over winter break, the teacher in charge of the computer lab noticed an unusual computer name related to school's domain, "beefcake.tjhsst.edu". Upon closer investigation, he discovered that one of his student system administrators had set up a new system on the network that was being used to download pornography and copyrighted software while school was not in session. The teacher came in the next available day, changed all the root passwords on the computers and told the student that he was no longer a system administrator.	4	L4	[5]

Question: Analyse and relate how the above situation could have been avoided with the help of cyber ethics education.

OR

Many students at Jefferson are multi-talented, and the entire student body seems to praise both academic and fine art achievements of such people. One student had been receiving accolades for his work in computer graphics, and had become a school celebrity. The principal had framed copies of the graphics images posted in the main office, and the computer science teacher presented some of his work at a national conference as the excellence at our magnet school. 4 L4 [5]

The student's computer graphics work won a "Gold Key" award from the Corcoran Gallery of Art and was to be featured on the cover of their publication. Other pieces were scheduled for publication in the school yearbook as well as its literary magazine. However, then the teacher noticed a computer graphic similar that student's work on the Internet but attributed to another person.

Question: What kind of cyber ethics breach has occurred here and how it could have been avoided?

2 a) Discover the internet privacy laws used to regulate internet privacy issues. 3 L3 [5]

OR

Articulate causes and types of digital divide with respect to emerging and converging technologies. 3 L3 [5]

24

**G H Raison College of Engineering and Management, Pune.**

(An Autonomous Institute affiliated to Savitribai Phule Pune University)

**T.Y. (Term-VI)****CAE-II Summer -2022 (2020 Pattern)****Universal Human Values 2: Understanding Harmony (UHUL304)****[Time: 1 Hour]****[Max. Marks: 15]****Instructions to the candidates:**

- 1) All Questions are compulsory
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) BL indicates Bloom's Taxonomy Level and CO indicates Course Outcome

Question	Sub Qn.	Question Details	Marks	CO	BL
Q.1	a)	What is the basis of Respect for a human being?	2	CO3	1
		OR			
	a)	What is justice? How does it lead to mutual happiness?	2	CO3	2
Q.1	b)	Write short notes on below values	3	CO3	2
		a) Affection      b) Love      c) Guidance	2		
		OR			
Q.1	b)	Explain the following	3	CO3	2
		a) Reverence      b) Glory      c) Gratitude			
Q.2	a)	State and explain nine feelings in Human Relationship.	5	CO3	1
		OR			
Q.2	a)	Explain "Discrimination leads to acrimony in relationships". How you will tackle issues created due to discrimination?	5	CO3	3
Q.3	a)	Explain scope of the systems to achieve harmony in the society.	5	CO3	2
		OR			
Q.3	a)	What do you mean by understanding the harmony in society?	5	CO3	2



[Total No. of Questions: 02]      Seat No:

[Total No. of Pages: 01]

**G H Raisoni College of Engineering and Management, Pune**

(An Autonomous Institution affiliated to SPPU)  
T.Y. B. Tech (Computer Engineering) (Term-Even)  
CAE-2 Summer-2023 (2020 Pattern)  
**Backend Programming (UCOL316)**

[Time: 1Hour]

[Max. Marks-15]

*Instructions to the candidates:*

- All questions compulsory.
- Neat diagrams must be drawn wherever necessary.
- Figures to the right indicate full marks.
- Assume suitable data, if necessary.

Que.	Sub Question	CO	L	M
1	a) Create a database <b>Backend</b> in MySql. Write MySQL statement to create a table orderDetails(OrderNo., productCode, Quantity ordered, priceEach) inside the database with suitable data types. Insert five records in the table.	2	L3	[5]

OR

b)	Explain view in MySQL. Consider a table orderDetails (OrderNo., productCode, Quantity ordered, priceEach). Create a view that represents total sales per order.	2	L2	[5]
2	a)	2	L3	[5]

S. No.	NAME	Stipend	Subject	Average	Div
1	ABHI	2000	PHY	72	1
2	RIYA	4000	COMP	64	2
3	DIVYA	3500	CHEM	73	1
4	PRIYA	2900	PHY	88	1
5	KIRAN	4000	MATH	92	1
6	KARAN	5000	CHEM	67	1
7	RAVI	3500	PHY	86	1
8	ANUPAM	3200	MATH	75	1
9	RAM	5400	COMP	56	2
10	JOHN	5000	MATH	98	1

Considering the above table name PG write the MySQL statement

3

to execute the following:

- List the names of those students who obtained DIV 1 sorted by NAME.
- Display a report, listing NAME, STIPEND, SUBJECT and amount of stipend received in a year assuming that the STIPEND is paid every month.
- Insert a new row in the PG table: 11,"KAVYA",3000,"COMPUTERS",79,1.

OR

b)

S. No.	NAME	GAME 1	GRADE 1	GAME 2	GRADE 2
1	ABHI	Cricket	A	Tennis	A
2	RIYA	Football	A	Cricket	B
3	DIVYA	Tennis	B	Football	B
4	PRIYA	Football	C	Basketball	A
5	KIRAN	Cricket	A	Tennis	C
6	KARAN	Basketball	B	Cricket	B
7	RAVI	Basketball	C	Tennis	A

2 L2 [5]

Considering the above table name SPORTS write MySql statement using PHP.

- Add a new column named ' Marks'.
- Assign a value 200 for marks for all those who are getting grade 'B' or grade ' A' in both Game1 and game2.

3

a)

Write a program to connect PHP with MySQL using MySQLi.

3 L2 [5]

OR

b)

Write a program to update data into MySQL Table using MySQLi.

3 L2 [5]

11/15

[Total No. of Questions: 03]      Seat No:

[Total No. of Pages:01]

**G H Raisoni College of Engineering and Management, Pune**

(An Autonomous Institution affiliated to SPPU)

T.Y. B. Tech (Computer Engineering) (Term-Even)

CAE-II Summer-2023 (2020 Pattern)

**Software Testing (UCOL306)**

[Time: 1Hour]

[Max. Marks-15]

**Instructions to the candidates:**

- All questions compulsory.
- Neat diagrams must be drawn wherever necessary.
- Figures to the right indicate full marks.
- Assume suitable data, if necessary.

Que.	Sub Question		CO	L	M
Q1	a)	Create Defect report for Amazon web Portal?(min.10)	CO2	L6	[5]
		OR			
	b)	Apply Control flow graph for following code? If a=10 then If b>c then a=b If a<b then b=c else endif endif endif print a,b,c	CO2	L3	[5]
Q2	A)	Compare Black box testing and White box testing?	CO3	L2	[5]
		OR			
	b)	Justify .Why Need of level of testing needed?	CO3	L3	[5]

3

a)

Solve following example for code coverage testing?

CO2 L3 [5]

For cyber vidya application

1)total no. of line code is 85000 and only 55000 code is executed. Find code coverage?

2)total no. of statements are 68000 out of that 34900 statement executed. find statement coverage?

OR

b)

Discuss Equivalence partition testing with example?

CO2 L3 [5]

\*\*\*\*\* All the Best \*\*\*\*\*



# G H Raisoni College of Engineering & Management, Pune

(An Autonomous Institute affiliated to SP Pune University)

TY B. Tech. CAE-II/Semester VI/2022-23

Blooms Taxonomy level

1: Remember, 2: Understand, 3: Apply, 4: Analyse, 5: Evaluate, 6: Create

OE-II Java Programming (UDSOEL 302A)

Duration: 1 Hr

Maximum Marks: 15

## Instructions to the Candidates:

- Attempt Q.1 or Q. 2, Q.3 or Q.4
- Figures to the right indicate full marks
- BL indicates Bloom's Taxonomy level, CO indicates Course Outcome & PO indicates Program Outcome (PO)
- Use calculator is permitted
- Diagrams / sketches should be given wherever necessary.
- Assume suitable data wherever necessary and state the assumptions made.

Q.01 Attempt any **Two** of following

	Marks	BL	CO	PO
a How to import a class in Java ? Explain with example	[02]	1	3	1
b What are the steps for Creating a Package? Explain with example in details.	[04]	1	3	12

OR

Q.02 a Explain Runnable Interface in Java.

[03] 5 4 1

b Identify which concept is used in below program? Explain in detail.

[03] 3 4 2

```
class Multi extends Thread{
    public void run(){
        System.out.println("thread is running...");
    }
    public static void main(String args[]){
        Multi t1=new Multi();
        t1.start();
    }
}
```

Q.03 a Illustrate how to start a Thread in detail.

[03] 2 4 2

b Explain the concept of Processes and Threads in detail with program.

[06] 5 4 1

OR

Q.04

a Compare unchecked and checked exceptions in Java.

[03] 4 3 1

b Determine the output of the below program? Explain in details every statement of the program.

[06] 5 3 12

```
public class JavaHungry
{
    public static void main(String args[])
    {
        try
        {
            System.out.print("A");
            int num = 99/0;
            System.out.print("B");
        }
        catch(ArithmeticException ex)
        {
            System.out.print("C");
        }
        catch(Exception ex)
        {
            System.out.print("D");
        }
        System.out.print("E");
    }
}
```