Department of Computer Centre
Gujarat University
5 Year Integrated M.Sc.(Computer Science) – III
Sessional – I

Subject: DBMS - II

Time: 1.5 hrs

Date: 15 / 10 / /2022

Maximum Marks: 30 Marks

Q: 1   Attempt the following (Any Two)   [10]

    a. Explain Cost model with the case study of disk page I/Os

    b. Discuss the operations which are considered for appropriate and efficient file organization (Note: Discuss any one type of file organization)

    c. Discuss some of the main characteristics of B+ Tree

    d. The system catalog maintains information about individual relations. Discuss the information stored about relations, indexes and views.

    e. Discuss the statistics about relation and indexes stored in system catalog

Q: 2   Define the following terms and give appropriate example wherever required (Any Five)   [15]

    a. File Organization with reference to indexing

    b. Search Key

    c. Hash Function

    d. Secondary Indexes

    e. Data Dictionary

    f. Cardinality

    g. Static hashing

Q.3   Differentiate :   [05]

    a. Compare Dense Index Vs Sparse Index

DEPARTMENT OF COMPUTER SCIENCE
GUJARAT UNIVERSITY
5-year Integrated M.Sc.(Computer Science) SEM III Subject: Object Oriented Concept and Programming
Sessional Examination – I

14ᵗʰ October, 2022

Time: 1 hr 30 min
Max. Marks: 30

Q1. Answer in Short. (Any Six)   **06**
(1) List the operators that cannot be overloaded.
(2) What is inline function?
(3) What is the use of destructor?
(4) What is the use of scope resolution operator(::)?
(5) Define the significance of public and private members of the class?
(6) Can we have multiple destructors in class? Give reason for your answer.
(7) What do you mean by default argument in function?

Q2. Attempt the following Questions. (Any Two)   **08**
(1) Differentiate Procedural Programming and Object-Oriented Programming.
(2) What is Function Overloading? Why we require it.
(3) What is MIL? How we can initialize the object using MIL? Also mention the advantage of MIL.

Q3. Attempt the following Questions. (Any Two)   **08**
(1) How operator can be overload? How to overload unary and binary operator?
(2) How static data members works?
(3) What is constructor? How copy constructors work? Give an example.

Q4. Attempt the following Questions.
(1) How template class store internally for different datatypes?   **08**
(2) Why we require to overload the operator using friend? Also write an example for the same.

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DEPARTMENT OF COMPUTER SCIENCE

GUJARAT UNIVERSITY

5-year Integrated M.Sc.(Computer Science) SEM III **Subject: General English**
Sessional Examination – I

17th October, 2022

Time: 1 hr 30 min
Max. Marks: 15

Q.1   Write six difference between acronyms and abbreviations ?   **02**

Q.2   change the below given sentences from active to passive ?   **03**
   1. Can you learn French easily?
   2. Your Impolite tone surprises me
   3. Our neighbors have invited us to dinner
   4. They had finished preparations by the time the guests arrived
   5. Millions of fans will see the final match tomorrow
   6. The robber hit him on the head with a hammer

Q.3   write the definition of clipping and it's four major types with 2 example?   **02**

Q.4   write the definition of Borrowing and give answers for below given words?   **02**

   1. Safari -
   2. Entrepreneur -
   3. Tattoo -
   4. Yogurt –
   5. Lilac –
   6. Croissant –

Q.5   Decide if the verb in bracket should be in present simple or the present continuous   **02**
   1. She ___ as a lab technician (work)
   2. In her job, she ___ the phone (answer)
   3. This month they _____ on a new project (work)
   4. Some areas of Italy _____ drier (become)

Q.6   Write a 3 page essay on role of technology in education?   **04**

OR

Q.6   Write a report on Demonetization and it's impact on Indian economy

Subject: Statistical Foundation   **Date: 13 / 10 / 2022**
Time: 1 hr 30 min   **Max. Marks: 30**
Instruction:
  1) Scientific calculator is allowed.
  2) All questions are compulsory.

1. a)   What is the difference between mutually exclusive and independent events?   **(1)**

   b)   A fair coin is tossed twice. Find the probabilities of the following events: **(4)**
        i) getting two heads
        ii) getting one head and one tail
        III) getting at least one head
        iv) getting four heads

2 a)   Suppose your chance of being offered a certain job is 0.45, your probability of getting another job is 0.55, and your probability of being   **(1)**
        offered both Jobs Is 0.30. What Is the probability that you will be offered at least one of the two Jobs?

2 b)   A card Is drawn from a well-shuffled pack of playing cards. Find the probability that the card drawn Is either a king or a queen.   **(1)**

2 c)   An Economist believes that Indian Rupee appreciates with the probability 0.70 given periods of high economic growth; it appreciates   **(2)**
        with probability 0.40 given periods of moderate economic growth; and the Rupee appreciates with probability 0.20 given periods of
        low economic growth,.

        During any period of time the probability of high economic growth Is 0.30; the probability of moderate economic growth is 0.50 and
        the probability of low economic growth Is 0.20.

        Given that the Rupee value has been appreciating during the present period, what Is the probability that we are experiencing the
        period of high economic growth?

3)   A box contains 10 balls out of which 2 are green, 5 are red and 3 are black. If two balls are drawn at random, one after the other   **(5)**
        without replacement, from the box. Find the probabilities that:
        I) both the balls are of green color
        ii) both the balls are of black color
        III) both the balls are of red color
        iv) the first ball is red and the second one is black
        v) the first ball is green and the second one is red

4. A random sample of 30 states shows the number of low-power FM radio stations for each state. Find the variance and standard deviation   (4)

Class Limits	Frequency
1-9	5
10-18	7
19-27	10
28-36	3
37-45	3
46-54	2

5. Explain difference between Covariance and Correlation   (2)

6. The data show the number of railroad crossing accidents for the 50 states of the United States for a specific year.

Class Limits	Frequency
1-43	24
44-86	17
87-129	3
130-172	4
173-215	1
216-258	0
259-301	0
302-344	1

a) Is the variable number of railroad crossing accidents quantitative or qualitative?   (1)
b) What is the scale of measurement of this variable?   (1)
c) Construct a relative frequency, percent frequency, and cumulative frequency for the data.   (3)
d) What is skewness? Comment on the skewness of this distribution.   (4)
e) How many states have railroad crossing accidents are less than 87?   (1)

2912M330

Candidate's Seat No : 30028

Integ M.Sc Sem.-3 (CS) Examination

General English

Time : 3-00 Hours]

December-2022

[Max. Marks : 35

Instructions:

- **Draw Diagrams wherever necessary.**
- **Make Assumptions wherever necessary.**

Q-1 Write definition of simple, compound, and complex sentences and give an detail structure of relative pronoun and subordinates with 5 examples in each sentence?　　**7 marks**

Q-2 Explain what is verb and write the difference between Intransitive verb and transitive verb and give at least 3 example in intransitive and transitive verb sentence?　　**7 marks**

OR

Q-2 What is word formation and right the types of word formation process and give at least 3 examples in each there are total 10 types of word formations?　　**7 marks**

Q-3 Write the definition of active and passive voice and answer the following questions. **7 marks**

[Convert into passive]

　(1.) They forced him to steal the money out of his dads room

　(2.) They might take the oldman to the hospital

　(3.) The guide will show us the Natural History Museum in the afternoon

　(4.) They also speak German at EU meeting

　(5.) The delegation will meet the visitors at the airport

　(6.) They could have kicked her out of the restaurant

　(7.) You must watch that shirt for tonight's party

(P.T.O)

Time: 1:00 Hour   **Max. Marks: 15**

Instructions: 1] Figure to the right indicates full marks.
                       2] All Questions are compulsory.

Q-1 Answer the followings in brief.   **05**

1.   What is meant by "Open-Source Software"?

2.   State the full form of GNU

3.   Name the person who developed Linux Operating System.

4.   Which editor is used in Linux to type programs?

5.   What are the basic permissions of a file, state the codes for permissions.

Q-2 State the syntax and purpose of following commands.   **05**

1.   ps - aux

2.   wall

3.   touch

4.   wc

5.   tar

Q-3 Write commands for following questions in brief.   **05**

1.   Search for a pattern within a file

2.   Display all the information about Linux Kernel

3.   Display Calendar for the month of January, 2023

4.   Display the content of file "/var/log/messages"

5.   Count the number of online users currently logged in

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