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| Faculty of Engineering & Technology | | | |
| Ramaiah University of Applied Sciences | | | |
| Department | Computer Science and Engineering | Programme | B. Tech. Computer Science and Engineering |
| Semester/Batch | 5th/2018 | | |
| Course Code | 19CSC302A | Course Title | Database Systems |
| Course Leader(s) | A. Prabhakar, Gp Capt N Rath VSM, Ami Rai E. | | |

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| Assignment - 02 | | | | | | | | |
| Register No. | | |  | Name of Student | |  | | |
| Sections |  | **Marking Scheme** | | | Max Marks | | First Examiner Marks | Second Examiner Marks |
| Part A | A1.1 | Introduction to parallel database system | | | 01 | |  |  |
| A1.2 | Discussion on query processing in parallel database system | | | 02 | |  |  |
| A1.3 | Discussion on challenges | | | 02 | |  |  |
|  | **Part-A Max Marks** | | | **05** | |  |  |
| Part B1 | B1.1 | Identification of candidate key(s) | | | 02 | |  |  |
| B1.2 | Highest normal form | | | 02 | |  |  |
| B1.3 | Decomposition of the tables | | | 04 | |  |  |
|  | **B1 Max Marks** | | | **08** | |  |  |
| Part B2 | B2.1 | Design and implementation of GUI | | | 03 | |  |  |
| B2.2 | Connection of front end with the database | | | 03 | |  |  |
| B2.3 | Discussion on the results | | | 03 | |  |  |
| B2.4 | Concluding remarks (Summary, limitations, improvements | | | 03 | |  |  |
|  | **B2 Max Marks** | | | **12** | |  |  |
|  | **Total Assignment Marks** | | | | **25** | |  |  |

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| **Course Marks Tabulation** | | | | |
| **Component- 1(B)Assignment** | **First Examiner** | **Remarks** | **Second Examiner** | **Remarks** |
| A |  |  |  |  |
| **Marks (out of 10)** |  |  |  |  |
| Signature of First ExaminerSignature of Second Examiner | | | | |

**Please note:**

1. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.
2. The First Examiner is required to mark the comments in RED ink and the Second Examiner’s comments should be in GREEN ink.
3. The marks for all the questions of the assignment have to be written only in the **Component – CET B: Assignment** table.
4. If the variation between the marks awarded by the first examiner and the second examiner lies within +/- 3 marks, then the marks allotted by the first examiner is considered to be final. If the variation is more than +/- 3 marks then both the examiners should resolve the issue in consultation with the Chairman BoE.

**Assignment - 02**

**Instructions to students:**

1. The assignment consists of **3**questions: Part A –**1** Question, Part B- **2**Questions.
2. Maximum marks is**25**.
3. The assignment has to be neatly word processed as per the prescribed format.
4. **Submission Date:** 16/01/2020
5. **Submission after the due date is not permitted.**
6. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.
7. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question

**PART A 5 Marks**

A parallel database system improves the performance of database system through parallelization of various operations, such as loading data, building indexes and evaluating queries. Query processing includes translations on high level queries into low level expressions that can be used at physical level of file system. In parallel database system, the query processing transformsthe high-level queries into execution plans that can be efficiently executed in parallel.

In this context, develop an essay on the topic: ***“Challenges of query processing in parallel database system”.***

The report should address the following:

A1.1 Introduction to parallel database system

A1.2 Discussion on how query processing is done in parallel database system

A1.3 Discussion on challenges of query processing in parallel database system

**PART B 20 Marks**

**B1 08 Marks**

Consider the relation schema developed to store the details of employees in an organisation.

EMPLOYEE (ID, Name, Type, Salary, Designation, Address)

Type refers to the type of working mode of employee such as full time or part time.

The following set of functional dependencies exists for the relational schema, EMPLOYEE:

ID -> Type, Address

Type -> Salary

Name ->Designation

The report should address the following:

**B1.1** Discussion on the possible candidate key(s) for the relation

**B1.2** Identification of the highest normal form of the relation with justifications

**B1.3** Decompose the relation using normalization techniques to the highest NF.

**B2 12Marks**

Design and implement a GUI for the Online Furniture Shopping Systemthat you had developed in Assignment1: B2 and connect with the databse.

The report should address the following:

**B2.1** Design and implementation of GUI

**B2.2** Connection of front end with the database using JDBC driver

**B2.3** Discussion on the results

**B2.4** Concluding remarks (Summary, limitations and improvements if any)

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