

# JAVA INSTITUTE FOR ADVANCED TECHNOLOGY

## Department of Examinations



COURSE(S) – (LEADING TO)	PROFESSIONAL DIPLOMA IN SOFTWARE ENGINEERING
UNIT NAME	DATABASE MANAGEMENT 1
UNIT ID	H7DX 04
ASSIGNMENT ID	H7DX 04/AS/02
RESEARCH NAME	CREATE A NORMALIZED RELATIONAL DATABASE MODEL
DESCRIPTION	STUDENTS ARE REQUIRED TO DESIGN A NORMALIZE DATABASE MODEL FOR A GIVEN SCENARIO
DURATION	1 WEEK
WORD COUNT	-
SUBMISSION VIA	ONLINE (STUDENT PORTAL)
DOCUMENT FORMAT	MICROSOFT WORD OFFICE DOCUMENT

### GUIDE LINES FOR CANDIDATES

- Students are expected to use reference books, the Internet, journals and other similar sources in order to accomplish the task specified above.
- Students are expected to refrain from repeating any content in their research document.
- Students will be penalised for any plagiarism.

NAME	:	..... (BLOCK CAPITALS)
ADMISSION NO	:	.....
NIC NO	:	.....

**Question:**

EXON (PVT) Ltd. Sri Lanka provides Specialized Software Engineers for other Companies on temporary basis to work for their projects. Worked time of EXON Software Engineers at other companies are recorded in the following table NICN (National Identity Card Number) is used in EXON to identify their Software Engineers Uniquely.

NICN	Contract No	Hours	Employee Name	Company ID	Company Location
892660522V	IT 2014	27	A.Janith	IT 001	Kandy
880944993V	IT 2014	84	T.Tharaka	IT 001	Kandy
842564347V	IT 1995	42	C.Asela	IT 120	Colombo
892660522V	IT 1995	42	A.Janith	IT 120	Colombo

1. What is Normalization?
2. Define 1st Normal Form, 2nd Normal Form and 3rd Normal Form
3. To which normal form this table belongs to
4. Identify the Primary key of this relation and justify your selection
5. Identify Fully Functional Dependencies and Partial Dependencies on the Primary Key
6. Normalise the above mentioned table to 2nd Normal Form
7. Identify the Transitive Dependencies on above 2nd Normal Form tables
8. Normalise above mentioned tables to 3rd Normal Form
9. Design an ER diagram for 3rd Normal Form.

(Note: Illustrate the tables in DBML (Database Manipulation Language) and display the Primary Key and Foreign Key in all the relations)

**Additional Guidelines**

Student should design a normalized ER diagram according to the following guideline

1. Student has to convert a given Un-normalized data structure to its third normal form.
2. Each process/ step of normalization should be described.
3. Design a normalized ER diagram.

# Assignment Submission Guidelines for Students

Students are advised to strictly follow the guidelines specified herein when formulating and submitting research assignments

## Important Information for Students

1. The assignment should be submitted only as a soft copy in a Microsoft Word format on or before the specified assignment due date.
2. The soft copy of the assignment should be uploaded to the student portal using the SCN number.
3. The submission date provided for all assignments are the final dates on which you can hand upload the assignments. Please note that late submissions are not allowed.
4. Plagiarism is treated as a serious offence and the work you produce should be individual and original. However, note that students will have to work in groups in certain scenarios.
5. All sources of information in any assignment must be referenced using the “Harvard referencing” system, where a reference listing should be included at the end of the assignment.
6. Please contact your branch on assignments, re-submission, and related procedures.
7. Students are expected to maintain a backup of all assignments. The Java Institute for Advanced Technology retains all the rights to re-call soft copies of any assignment at any time during the course.
8. Students should use the attached assignment coversheet and declaration of authentication form to the assignment
9. Students are expected to provide the following information in their assignment coversheet of the softcopy in the CD:
  - Student name
  - SQA ID number
  - NIC No
  - Subject name
  - Subject code
  - Branch.
10. Assignment Report Rules
  - Paper Size:A4
  - Word Count:1500 words
  - Line Spacing:1.5
  - Printing Margin:1 inch on LHS and RHS
  - Binding Margin:½ inch
  - Header and Footer:1 inch

- Printing: Single-sided
- Basic Font Size:12pt
- Heading:16pt
- Sub-headings:14pt, Bold
- Body:12pt, Justified Aligned
- Font Style: Times New Roman/Calibri.