*Lab Report*

**21ES602 – EMBEDDED SYSTEM DESIGN USING ARM**

*Submitted by*

<Roll Number> - <Name>

MASTER OF TECHNOLOGY

IN

EMBEDDED SYSTEMS



AMRITA SCHOOL OF ENGINEERING, COIMBATORE

AMRITA VISHWA VIDYAPEETHAM

COIMBATORE – 641112

<Month><Year>

**CONTENTS**

|  |  |  |
| --- | --- | --- |
| Experiment number | Title of the experiment | Page number |
| 1. | Familiarization of IDE & Board |  |
| 2. | Assembly Language Programs to understand instruction set |  |
| 3. | Embedded C Program to configure and use Input/output ports |  |
| 4. | Embedded C Program to configure and use Timers |  |
| 5. | Embedded C Program to configure and use ADC |  |
| 6. | Embedded C Program to configure and use DAC |  |
| 7. | Embedded C Program to configure and use PWM |  |
| 8. | Embedded C Program to configure and use UART |  |
| 9. | Embedded C Program to configure and use SPI |  |
| 10. | Embedded C Program to configure and use I2C |  |
| 11. | Project |  |

**Experiment 1**

**AIM:**

To familiarize any ARM architecture based microcontroller board and compatible IDE(s) for assembly language and C programming.

**PROCEDURE:**

**Instructions**

1. Follow the general instruction given at the end of this manual.
2. Like this prepare content for all chapters.

**Instructions**

1. Source Code

* Common source code for experiments 3 and 4
* Separate source codes for all remaining experiments. This totals to 10 sets of source code (Include code for project done too as a separate folder)
* Put each set in a folder titled EBS200\*\*\_Exp# (Replace \*\* by last two digits of your roll number and # by experiment number) eg: EBS20028\_Exp3-4, EBS20028\_Exp5, EBS20028\_Project etc.
* Source code folder must (and only) contain all required source and header files
* Put all 10 folders into a folder titled EBS200\*\*\_SourceCode\_Lab (Replace \*\* by last two digits of your roll number). Convert this into a ‘.zip’ folder

1. Report

* Report must be one single ‘.docx’ file
* Must be organized as 11 chapters (1 familiarization of IDE and board, 9 experiments and 1 project).
* Each chapter must have aim, procedure, implementation and results
* Aim must bring out what is the purpose of the experiment in this chapter
* Procedure must explain the step-by-step methodology to achieve the aim. You can include screen shots here along with explanation of steps
* Results should have statements, and, photographs and screenshots to show the completion of objective. Mention explicitly what all activities pertaining to the work is completed and what is pending.
* 11th chapter must be on project done as part of the lab.

1. Submission

* The ‘.zip’ file along with the ‘.docx’ file must be uploaded in the designated folder in your roll number inside the lab experiment submission folder in the Files tab of Teams class for this course.