SAMPLE FINAL EXAM
EET 340

Name:

1. (10 Points) Provide definition of the followings: a. Assembly language b. Machine Code

2. (10 Points) Convert Decimal value to binary and then convert to hexadecimal value (Show the steps of calculation): 21_{10}

3. (15 Points) Translate the following LEGV8 assembly instruction into a machine instruction: ADDI X9, X9, #1

4. (15 Points) Convert the following C++ code to LEGv8 Assembly code. Assume the variable a is in X22 and base address of array b is in X23.

```
for(i=0,i<a,i++)
{
    b[i] = a + i;
}
```

5. (10 points) What will be the decimal value of R1 and R9 after executing the following instruction.

```
MOV R9, #10
LSL R1, R9, #3
```

6. (15 Points) Convert following floating-point values to IEEE-754 single precision format. Convert the result in hexadecimal and show all the steps of calculation: 2.75

7. (10 Points) Draw the multicycle pipelined diagram for the following instructions.

LDUR X1, [X4, #100]
LDUR X2, [X4, #200]

8. (15 Points) Trace the data path taken by the following instruction using Datapath source diagram: ADD X4, X5, X6