EASTERN UNIVERSITY, SRI LANKA

DEPARTMENT OF MATHEMATICS

FIRST YEAR EXAMINATION IN SCIENCE-2013/2014

FIRST SEMESTER (SEPT. / OCT. , 2015)

CS 152 – PRACTICAL WORK ON INTRODUCTION TO PROGRAM DESIGN AND PROGRAMMING

(PROPER & REPEAT)

Answer all questions   **Time allowed: 2 Hours**

Note : You have to save your files with the question number and your index number.
       Eg: Q1_1138.cpp

1. Write a C++ program which reads an integer from user, and then prints a pattern with '#' symbol and 'A' character for given size. For example, when it reads the number 5, the output would be,

```
#
# A
# A #
# A # A
# A # A #
            A
        # A
      A # A
    # A # A
  A # A # A
```

2. Declare a Structure for Ceylon Electricity Board(CEB) records consisting of the following fields:
   User Name
   Address
   No of Units

   Write a program to calculate the monthly Electricity bill including functions to do the following task:
   - From 0-30 units Rs. 100.
   - Rs. 5 per unit for 31-60 units.
   - Rs. 8 per unit for 61-90 units.
   - Rs. 12 per unit for 91-120 units.

- Rs. 15 per unit for any unit beyond 120 units.

Call the above functions inside a **main()** function to show the following output:

Enter the user name   :   Ravi

Enter the address   :   Trinco Road

Enter number of units   :   78

Details for the user

Name   :   Ravi

Address   :   Trinco Road

No of units   :   78

Monthly Charge   :   Rs. 394