M.Sc. 1st Semester Examination, 2015

ELECTRONICS

( Computation Laboratory )

( Practical )

PAPER – ELC-105

Full Marks : 50

Time : 3 hours

Answer any one question, selecting it by a lucky draw

1. Write a program in C to check if an integer is prime or not.

(Turn Over)
2. Write a program in C to find the sum of the following series:

\[ 1 + \frac{1}{3} + \frac{1}{5} + \frac{1}{7} + \cdots \text{ up to 10th term.} \]

3. Write a program in C which will read an decimal integer from keyboard and determines it's length.

(e.g. if input is 123, output will be 3).

4. Write a program in C to find the value of \( \sin(x) \). The value of \( x \) would be provided in radian by the examiner.

5. Write a program in C to determine the value of \( e^x \).

Use at least six terms to do so.

6. Write a program in C to search an integer in an array.
7. Write a program in C to sort a list of integers. The values would be provided by the examiner.

(Use any of the sorting techniques of your choice).

8. Write a program in C to determine the factorial value of a given integer.

9. Write a program in C that will read an integer from keyboard and provide the following sequence:

   1
   2  2
   3  3  3
   4  4  4  4
   5  5  5  5  5
   .  .  .  .  .  .  .

10. Write a program in C to reverse an integer.

    (e.g.: If input is 12345, output should be 54321).
11. Write a program in 'C' to evaluate the first 20 terms of the following series:

\[ 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + \ldots \]

12. Write a program in 'C' to convert a binary number to its decimal equivalent.

13. Write a program in 'C' to evaluate the first 20 terms of the following series:

\[ 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \ldots \]

**Distribution of Marks:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks</th>
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<tbody>
<tr>
<td>Program</td>
<td>10</td>
</tr>
<tr>
<td>Execution</td>
<td>20</td>
</tr>
<tr>
<td>Discussion and Accuracy</td>
<td>05</td>
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<tr>
<td>Viva-voce</td>
<td>10</td>
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<tr>
<td>Laboratory Note Book</td>
<td>05</td>
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<td><strong>Total</strong></td>
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PG/IS/ELC-105/15 (Pr.)