|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **KLS, Gogte Institute of Technology, Belgaum**  **Department of Mathematics**  **Internal Assessment Test - I**  **Subject: Engineering Mathematics – III Code: 15MAT31 Academic Year: 2016-17**  **Semester: III All Branches Date: 02 –09 – 2016**  **Max. Marks: 25 Duration: 1 Hr .**  **Instructions: All questions are compulsory.**  (5×5=25 mark)   1. Obtain the Fourier series to represent in the interval [L2,a] 2. Express as the half-range cosine series in the range [L3,a] 3. The following table gives the variations of periodic current over a period.  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | t (sec) | 0 | T/6 | T/3 | T/2 | 2T/3 | 5T/6 | T | | A (amp) | 1.98 | 1.30 | 1.05 | 1.30 | -0.88 | -0.25 | 1.98 |   Obtain the amplitude of the first harmonic. [L2,a]   1. Use Regula falsi method to find root of the equation which lies between 3.5 & 4, correct upto four decimal places. [L3,a] 2. Find the root of the equation using Newton’s-Raphson method perform 4 iterations. [L2,a] |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **KLS, Gogte Institute of Technology, Belgaum**  **Department of Mathematics**  **Internal Assessment Test - I**  **Subject: Engineering Mathematics – III Code: 15MAT31 Academic Year: 2016-17**  **Semester: III All Branches Date: 02 –09 – 2016**  **Max. Marks: 25 Duration: 1 Hr .**  **Instructions: All questions are compulsory.**  (5×5=25 mark)   1. Obtain the Fourier series to represent in the interval [L2,a] 2. Express as the half-range cosine series in the range [L3,a] 3. The following table gives the variations of periodic current over a period.  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | t (sec) | 0 | T/6 | T/3 | T/2 | 2T/3 | 5T/6 | T | | A (amp) | 1.98 | 1.30 | 1.05 | 1.30 | -0.88 | -0.25 | 1.98 |   Obtain the amplitude of the first harmonic. [L2,a]   1. Use Regula falsi method to find root of the equation which lies between 3.5 & 4, correct upto four decimal places. [L3,a] 2. Find the root of the equation using Newton’s-Raphson method perform 4 iterations. [L2,a] |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **KLS, Gogte Institute of Technology, Belgaum**  **Department of Mathematics**  **Internal Assessment Test - I**  **Subject: Engineering Mathematics – III Code: 15MAT31 Academic Year: 2016-17**  **Semester: III All Branches Date: 02 –09 – 2016**  **Max. Marks: 25 Duration: 1 Hr .**  **Instructions: All questions are compulsory.**  (5×5=25 mark)   1. Obtain the Fourier series to represent in the interval [L2,a] 2. Express as the half-range cosine series in the range [L3,a] 3. The following table gives the variations of periodic current over a period.  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | t (sec) | 0 | T/6 | T/3 | T/2 | 2T/3 | 5T/6 | T | | A (amp) | 1.98 | 1.30 | 1.05 | 1.30 | -0.88 | -0.25 | 1.98 |   Obtain the amplitude of the first harmonic. [L2,a]   1. Use Regula falsi method to find root of the equation which lies between 3.5 & 4, correct upto four decimal places. [L3,a] 2. Find the root of the equation using Newton’s-Raphson method perform 4 iterations. [L2,a] |