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| Department of Energy and Sustainable Energy  Answer **All** questions Duration: 1 hour | Mathematics 1 Mid-Term Exam 30 Marks  November 25, 2014 |
| [1] Find the limits: (a) (b) (c)  [2]Find **y`** from the following:  (a) (b) (c)  (d) (e) (f)  [3](a) Determine the maximum and minimum points of :  (b) Write the Maclurin’s expansion of :  [4]Find the integrals:  (a) (b) (c)  (d) (e) (f) | |

Good Luck Dr. Mohamed Eid

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| Department of Energy and Sustainable Energy  Answer **All** questions | Mathematics 1 Mid-Term Exam 20 Marks  Duration: 1 hour |
| [1] If , . Find, if possible, A + B, A.B, A.Bt.  [2] If , . Find, if possible, A + B, A.B, |A|, |A.B|  [3] Find the eigenvalues and the eigenvectors of of:  [4]Determine the type of solution of the linear system:  x + y + z = 2, x – 2y + z = 3, 2x – y + 2z = 0. | |

Good Luck Dr. Mohamed Eid