

American International University-Bangladesh

**Faculty of Science and Technology**

**Department of Mathematics**

**MAT1205: Integral Calculus and Ordinary Differential Equations (Sections: All)**

Midterm Examination

Total Marks: 40 Time: 1.5 hours

**1.** Answer the following short questions:

**(a)**, **(b)**, **(c)** find,

**(d)** **(e)** **(f)**

**(g)** **(h) (i)**,

**(j)** find, **(k)** , **(l)** .

**2.** Answer the followings:

1. Evaluate .
2. For the given integralwith, where *n* is the subintervals, estimate the value of the integral using **Trapezoidal rule**.
3. Sketch the region bounded by the curveand theaxis. Also find its area.
4. Evaluate using integration by parts, .
5. Evaluate using gamma/Beta function, .
6. Sketch the region bounded by the curves . Find the volume of solid generated by revolving the region about the axis.