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

Total Marks: 40 Time: 1.5 hours

Course coordinators:.

1. Answer ant FIVE the following(short questions): **[2×5=10]**

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

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

**(g)** **(h)** ..

1. Given that,with, where *n* is the number of subintervals, estimate the value of the integral using **Trapezoidal rule**. **5**
2. Answer any **ONE** of the following: **5**
3. Sketch the region bounded by the curves . Hence find the area of the region.
4. Sketch the region bounded by the curves . Hence find the area of the region
5. Answer any **ONE** of the following: **5**
6. Sketch the region enclosed by the curve , the line and . Find the volume of solid generated by revolving the region about the *x*-axis.
7. Sketch the region enclosed by the curve , the line and . Find the volume of solid generated by revolving the region about the *y*-axis.
8. Evaluate any **ONE** of the following integrals using Gamma/ Beta function: 5
9. , **(b)** , **(c)**.
10. Evaluate any **TWO** of the following integrals: **10**

**(a)**, **b)**, **(c)**,  **(d)**