**King Saud University**

**Department of Mathematics**

**M-203(Second Semester 1437/1438)**

**Course outlines and Exercises for Tutorial Classes**

**Book**: Calculus by Swokowski, Olinick and Pence (6th Edition)

8.1. **Sequences** 19,24,26,27,30,38,42

8.2. **Convergent or divergent series**2,4,5,8,9,11,13,26,27,31,32,33,35,40,43,44,45,46,48.

8.3. **Positive term series** 2,3,4,6,9,12,14,15,18,19,22,23,26,27,31,32,33,36,38,42,45.

8.4. **The Ratio & Root tests** 3,4,6,7,10,12,15,16,17,20,23,25,27,30,37,38,40.

8.5. **Alternating Series & Absolute Convergence**1,4,6,9,14,16,19,22,24,25,29,32.

8.6. **Power Series 5**, 6, 11,18,21,25,29,30,33.

8.7. **Power Series Representation of Functions**1,2,5,6,10,15,18,1923,27,28,31,34.

8.8. **Maclaurin & Taylor Series**7,8,10,11,13,15,16,18,19,20,21,23,25,28,30,31,33,34,36,

38, 40,42

13.1. **Double Integrals**14,15,19,20,22,23,25,27,29,31,46,47.

13.2. **Area & Volume** 8, 9,10,12,22,24,29,31.

13.3. **Double Integrals in Polar** 8,11,12,13,15,20,21,22,23,26,27.

13.4. **Surface Area** 1, 2,6,8,11,12.

13.5. **Triple Integrals** 2, 5, 6,12,15,16,22,30,31.

13.6 **Moments & Centre of Mass** 1,4,12,20,24,25.

13.7. **Cylindrical Coordinates** 2,3,4,16,21,31,33,35,36,38,39.

13.8. **Spherical Coordinates** 2,5,6,12,16,21,28,31,37,40.

14.1. **Vector Fields** 13,14,17,20.

14.2. **Line Integrals** 5, 8,14,15,16,18,20,24.

14.3. **Independence of Path** 4, 5, 6,11,14,15,18,20,21.

14.4. **Green’s Theorem** 3,4,5,10,11,14,15,18,20,21.

14.5. **Surface Integrals** 2,3,11,14,16,17.

14.6. **The Divergence Theorem** 1, 2,8,9,10,12.

14.7. **Stokes’s Theorem** 1, 5, 7.