



UNIVERSITY OF EDUCATION  
"UEXAM" Semester-IV, 2019  
Msc. Mathematics Session:2017-19

Course Code: MATH4118  
Subject: Numerical Analysis-II  
Time Allowed: 100 Minutes.

Max. Marks: 42

**Section II (Short Answer)**

Q.2- Write short answers of the following.

3x6 = 18

- I). Define numerical integration.
- II). Give formulas for Simpson 1/3 rule.
- III). Define general solution of a homogeneous difference equation.
- IV). Solve the DE  $y_{x+3} - 6y_{x+2} + 11y_{x+1} - 6y_x = 0$ .
- V). Give formulae for Weddle Rule.
- VI). What do we mean by Numerical Differentiation.

**Section III (Essay Type)**

Answer the following Questions

6x4 = 24

- Q.3. Solve and drive Fibonacci difference equation.
- Q.4. Drive Simpson's 3/8 rule from Newton cotes formula.
- Q.5. Find error in Simpson 1/3 rule.
- Q.6. Solve  $\int_0^{1.2} e^{x^3} dx$  by Weddle rule by taking  $n = 12$