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## Independent University, Bangladesh

Mathmetics (Part -II)

Time Allowed: 3 hours

Note: Note: Attempt five questions. Selecting Two Questions from Section-A and three question from section B. all Question Carry equal marks.

## Section -A

Q.1. a) Transform the cartesian equation of ellipse  $\frac{x^2}{a^2} + \frac{x^3}{b^2} = 1$  to its polar form

Q.2. b) Evaluate the integral  $\int_{1.0}^{1.30} \sqrt{x} dx$  where h=0.05 using

i) Trapezoidal rule ii) Simpson rule and compare with the exact value.

## Section -B

Q.3 a)Use the method of variation of parameters to solve  $y^n + y = \frac{1}{1+\sin x}$