

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

DIFFERENTIAL EQUATIONS

II-INTERNAL EXAM

Max marks: 20M

Section-A

Answer any TWO questions

5×2=10M

1. Solve $(D^2 - 2D + 1)y = e^x x^2$.
2. Solve $y'' + 2y' + y = x \cos x$.
3. By eliminating the constants, obtain the partial differential equations from the relation $2z = \frac{x^2}{a^2} + \frac{y^2}{b^2}$.
4. Solve $(mz-ny)p+(nx-lz)q=ly-mx$.

Section-B

Answer any ONE question

10×1=10M

1. Solve $y'' + 3y' + 2y = 12e^x$ using the method of variation of parameters.
2. $x^2 D^2y - x Dy - 3y = x^2 \log x$ by Cauchy-Euler's method.