

SARIYA COLLEGE, SURIYA

INTERNAL EXAM.-2026

Mathematics

Sem.- III (2024-28)

Minor

Full Marks:-= 20

Obtain 20 Marks

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| 1. State and prove Picard's Existence and Uniqueness theorem. - | 10 |
| 2. Solve $\frac{dy}{dx} + 1 = e^{x-y}$ | 5 |
| 3. Solve $(x^2y - 2xy^2) dx - (x^3 - 3x^2 - y) dy = 0$ | 5 |
| 4. Solve $\frac{d^2y}{dx^2} + a^2y = \text{Cosay}$ | 5 |
| 5. Solve $x^2 \frac{d^2y}{dx^2} - x \frac{dy}{dx} + y = 2\log x$ | 5 |
| 6. Define the following with exams | 5 |
| (i) Ordinary differential equation | |
| (ii) Order of differential equation | |
| (iii) Degree of differential equation | |