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**Department of Research & Development**  
**Mid - Term Examinations - SEPTEMBER 2024**

<b>Odd Semester:</b> Ph.D. Course Work	<b>Date:</b> 28 /09/2024
<b>Course Code:</b> CSE5015	<b>Time:</b> 2:00pm – 3:30pm
<b>Course Name:</b> Data security and access control	<b>Max Marks:</b> 50
<b>Department:</b> CSE	<b>Weightage:</b> 25%

**Instructions:**

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

**Part A**

<b>Answer ALL the Questions. Each question carries 5 marks.</b>		<b>4Qx5M=20M</b>
<b>1</b>	What are the primary components of data security, and why are they important in protecting sensitive information?	<b>5 Marks</b>
<b>2</b>	Describe the differences between symmetric and asymmetric encryption and their role in ensuring confidentiality.	<b>5 Marks</b>
<b>3</b>	Differentiate between static and dynamic data masking	<b>5 Marks</b>
<b>4</b>	What role does encryption play in securing backup data?	<b>5 Marks</b>

**Part B**

<b>Answer ALL Questions. Each question carries 15 marks.</b>		<b>2Qx15M=30M</b>
<b>5</b>	Discuss in detail about the implications of applying machine learning and artificial intelligence to automate data security tasks, and how do they compare to traditional rule-based systems.	<b>15 Marks</b>
<b>6</b>	How can characteristic-specific security models be integrated into the development lifecycle to proactively identify and mitigate vulnerabilities that may arise from unique operational contexts?	<b>15 Marks</b>