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

<b>Odd Semester:</b> Ph.D. Course Work	<b>Date:</b> 27/09/2024
<b>Course Code:</b> MGT919	<b>Time:</b> 10:00am – 11:30am
<b>Course Name:</b> Programming for Analytics	<b>Max Marks:</b> 50
<b>Department:</b> School of Management	<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>	Write a Python script to check if NumPy and Pandas libraries are installed. Install them if not.	<b>5 Marks</b>
<b>2</b>	Write a Python code snippet to read a CSV file using the Pandas library and display the first five rows of the DataFrame	<b>5 Marks</b>
<b>3</b>	Explain the difference between merging and concatenating DataFrames in Pandas. Provide a scenario where each operation is more suitable.	<b>5 Marks</b>
<b>4</b>	Create a histogram for a given dataset using the matplotlib library.	<b>5 Marks</b>

**Part B**

<b>Answer ALL Questions. Each question carries 15 marks.</b>		<b>2Qx15M=30M</b>
<b>5</b>	Develop a Python function that calculates the exponential moving average (EMA) of a given time series using the Pandas library. Explain the significance of using EMA in time series analysis	<b>15 Marks</b>
<b>6</b>	Implement a function to handle missing values in a Pandas Data Frame by either removing or filling them	<b>15 Marks</b>