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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> CSE806	<b>Time:</b> 2:00pm – 3:30pm
<b>Course Name:</b> Image Processing	<b>Max Marks:</b> 50
<b>Department:</b> PCSE &PSIS	<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>	<b>Describe the use of smoothing filters in image processing.</b>	<b>5 Marks</b>
<b>2</b>	<b>Discuss different spatial filtering techniques and their effectiveness in removing noise from an image.</b>	<b>5 Marks</b>
<b>3</b>	<b>Explain the Discrete Fourier Transform (DFT) and its significance in image processing.</b>	<b>5 Marks</b>
<b>4</b>	<b>Explain the role of edge detection operators with example</b>	<b>5 Marks</b>

**Part B**

<b>Answer ALL Questions. Each question carries 15 marks.</b>		<b>2QX15M=30M</b>
<b>5</b>	<b>How do wavelet transforms contribute to image processing?</b>	<b>15 Marks</b>
<b>6</b>	<b>Discuss various thresholding techniques used for image segmentation</b>	<b>15 Marks</b>