

**M.Sc. (Mathematics with Applications in Computer Science)**  
**Term End Examination**  
**December 2020**

**MMTE-003(P), Pattern Recognition and Image Processing**

*Time allowed: 1½ hours*

*Maximum Marks 40*

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**Note:**

- 1) The question paper has two questions worth 40 marks each. Attempt both of them.**
  - 2) Write scilab programme in your answer booklet.**
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- 1) Load a blur Image and restore it using (20)
  - a) Wiener filter
  - b) Median filter
- 2) Load an Image. Blur the image using Gaussian averaging and add exponential noise to it. (20)
  - a) estimate degradation and noise from distorted Image.
  - b) Find the mean-square-error (MSE) and signal to noise ratio (SNR) of each image.