**M S Ramaiah Institute of Technology**

**(Autonomous Institute, Affiliated to VTU)**

**Department of Information Science and Engineering**

**Programme: B. E. in Information Science and Engineering**

Term:

**17.08.2016 to 17.12.2016**

Course Code:

**IS52A1**

Course:

**Digital Image Processing**

Semester:

**V**

CIE:

**Test – I**

Max Marks:

**30**

Date:

**05/10/16**

Time:

**1hr**

**Portions for Test:** L1-L20

**Instructions to Candidates**: **Answer any two questions.**

Note: **Mobiles are strictly prohibited**

**Sl#**

**Question**

**Marks**

**Bloom’s Level**

**CO**

1

a) Explain with a neat diagram the fundamental steps in digital image processing.

8

Understand

CO1

b) Demonstrate with an example how intensity transformation and spatial filtering techniques can be applied on the image.

7

Apply

CO2

2

b) With a necessary graph, explain the Power-law and Image Log transformations used in image enhancement.

8

Understand

CO1

a) Consider the image segment shown below.

i) Let V = {1,2}. Compute the shortest 4- , 8- , and m- path between p and q.

3

1

2

1

**(q)**

2

2

0

2

1

2

1

1

**(p)**

1

0

1

2

7

Apply

CO2

3

a) What is a digital image? With a neat diagram explain the image formation model.

8

Understand

CO1

b) The following matrix represents the pixel values of an 8-bit image. Compute the following on the given image:

100

110

90

95

98

140

145

135

89

90

88

85

102

105

99

115

i) Image Negative

ii) Intensity-level slicing (A=80, B=100)

iii) Intensity Resolution

iv) Spatial Resolution e) Image contrast

7

Apply

CO2