

Mansoura University Faculty of CIS Information System Department 4th year exam		Mid-Term Exam Multimedia System 12 November, 2016 Time allowed: 1 Hours
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Student Name: _____

Section: _____

Question I: Answer the following questions:

1. Consider the following matrix M that represents a gray-scale image:

89	200	120
230	120	230
89	200	120

Find the ordered dither of image M using the following dither matrix

2	13	4	4
0	10	14	2
1	16	16	13
4	6	6	1

2. Give two examples for each:
- Static, time-independent discrete media
 - Dynamic, time-dependent continuous media
3. Given a colour represented in CMYK colour space as $C=0.4$, $M=0.0$, $Y=0.3$, $K=0.4$. What is its representation in the RGB colour model?

Question II: Answer the following questions

1. List **three** distinct *models* of *color* used in multimedia. *Explain* why there are a number of *different color models* exploited in multimedia data formats.
2. Find the contrast of the image given below using histogram features. Explain your answer

100	130	150	180	210
110	140	160	190	220
120	100	170	200	230
110	110	100	120	100
120	120	110	100	130

3. How many minutes are required to transmit a digitized color scanned at 4000×3000 pixels, and 24 bits, at 28.8 (kilobits/second)?