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Question Paper Code: 52973

M.E. DEGREE EXAMINATION, DECEMBER 2015

Elective

VLSI Design

15PVL525 - MEDICAL IMAGE PROCESSING

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

(5 x 20 = 100 Marks)

1. (a) (i) Explain the concept of modulation transfer function in detail. (12)
(ii) Write short notes on image fidelity criteria. (8)

Or

- (b) Give a detailed account of image transforms. (20)

2. (a) Explain the spatial domain methods of image processing in detail. (20)

Or

- (b) (i) What is image restoration? Derive the image degradation model. (10)

- (ii) Explain inverse and pseudo-inverse filtering in detail. (10)

3. (a) Explain in detail

- (i) The Central slice theorem (10)

- (ii) Back projection method of reconstruction. (10)

Or

- (b) Give a detailed account of image reconstruction in nuclear emission CT. (20)
4. (a) Explain in detail about Edge-Based image segmentation. (20)

Or

- (b) (i) What are texture and relational features? Explain. (10)
- (ii) Discuss a Rule-Based system for region merging and splitting. (10)
5. (a) Give a detailed account of elastic Deformation-Based registration in detail. (20)

Or

- (b) Explain in detail about surface and volume based 3-D display methods. (20)
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