Reg. No. : | | | | | | | | | | | | |

# Question Paper Code : 20729

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Information Technology

IT 6005 – DIGITAL IMAGE PROCESSING

(Common to Electronics and Communication Engineering, Biomedical Engineering, Computer Science and Engineering, Electronics and Instrumentation Engineering, Instrumentation and Control Engineering, Mechatronics Engineering, Medical Electronics)

(Regulations 2013)

(Also Common to PTIT 6005 — Digital Image Processing – for B.E. Part-Time – Sixth Semester – Electronics and Communication Engineering – Regulations 2014)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the applications of color models.

2. Differentiate photopic and scotopic vision.

3. What is the purpose of image averaging?

4. Define masking.

5. Give the relation for Gamma noise and Exponential noise.

6. What is segmentation? Write the applications of segmentation.

7. What is image compression?

8. List the advantages of transform coding.

9. Mention the demerits of chain code.

10. Give the formula for diameter of boundary.

PART B — (5 × 13 = 65 marks)

11. (a) Briefly discuss about the elements of Digital Image Processing system.

Or

(b) Discuss in detail about the relationships between pixels.

12. (a) Discuss about Smoothing and Sharpening Spatial Filtering in detail.

Or

(b) Write short notes on ideal Butterworth and Gaussian Filters.

13. (a) Explain in detail about various Mean filters.

Or

(b) Explain about the process of edge linking and boundary detection in detail.

14. (a) Define Compression and explain the general compression system model.

Or

(b) Explain in full detail about Lossless predictive coding.

15. (a) Write short notes on following :

(i) Signatures

(ii) Boundary Segments.

Or

(b) Describe in detail about Patterns and Pattern Classes.

PART C — (1 × 15 = 15 marks)

16. (a) Explain the principle of Region splitting and merging in detail.

Or

(b) Explain about Compression Standards in detail.