QP CODE: 22101214

22101214

Reg No : .....

Name : .....

B.Sc/BCA DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, APRIL 2022

Sixth Semester

Choice Based Core Course - CS6CBT01 - DIGITAL IMAGE PROCESSING

Common for B.Sc Information Technology Model III, B.Sc Computer Science Model III, B.Sc Computer Applications Model III Triple Main & Bachelor of Computer Applications

2017 Admission Onwards

7FFD996A

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Describe spatial domain of digital images.
2. What is the storage requirement for a 24 bit colour image of dimension 1024*1024?
3. Describe image processing software.
4. What is the unit of resolution? Define intensity resolution similarity.
5. Describe digital image formation model.
6. Describe m-adjacency.
7. Describe any two operations in set theory.
8. Explain an application of image negative.
9. Define Fourier Transform.
10. Define hit-or-miss transformation.
11. What is the use of image segmentation?
12. Explain Region growing.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain image acquisition and image enhancement.

14. Explain optical illusion.

15. Distinguish image sampling and quantization.

16. Describe intensity transformation function.

17. What is log transformation? How does it useful in image processing?

18. What is contrast stretching? What is its use?

19. Explain opening and closing operations in morphological image processing.

20. How can we perform basic edge detection using gradient operators?

21. With suitable example explain the difference between region splitting and merging.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain the application areas of digital image processing.

23. Explain the basic operations of correlation and convolution using image filters.

24. A) Explain erosion and dilation operations with suitable examples.
    B) Describe the use of erosion and dilation operations.

25. What is thresholding? Explain basic global thresholding.

(2×15=30)