

Registration Number:

Date & session:



**ST. JOSEPH'S UNIVERSITY, BENGALURU -27**  
**M.SC (BIG DATA ANALYTICS) – II SEMESTER**  
**SEMESTER EXAMINATION: APRIL 2024**  
(Examination conducted in May / June 2024)  
**BDADE 2721 – DIGITAL IMAGE PROCESSING**  
**(For current batch students only)**

**Time: 2 Hours**

**Max Marks: 50**

**This paper contains ONE printed page and THREE parts.**

**PART-A**

**Answer ALL questions**

**2 X 5=10**

1. Define Sampling and Quantization
2. How spatial resolution is different from intensity resolution?
3. List the different file formats with its abbreviations
4. Define noise and saturation with respect to Image Processing
5. What do you mean by Digital Compositing?

**PART-B**

**Answer ANY FIVE questions**

**4 X 5 =20**

6. How arithmetic operations are used to enhance the properties of original image?
7. Mention the properties and uses of FFT
8. With suitable example explain any two spatial filtering techniques
9. Compare and contrast edge based segmentation with region based segmentation
10. Elaborate how digital Image processing helps people in doing the advancement in Medical Image Processing and Business Analytics
11. Illustrate the working principle behind Huffman coding with suitable example
12. Discuss the role of Image Classification

**PART- C**

**Answer ANY TWO questions**

**10 X 2 =20**

13. a) Outline the importance of Histogram equalization and matching [6]  
b) Write a note on edge detection [4]
14. a) Describe the properties of 2D Fourier Transform [6]  
b) List the applications of Steganography [4]
15. Demonstrate the basic relationships between pixels with suitable examples