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| **Vivekanand Education Society’s Institute of Technology, Chembur, Mumbai,**  Department Of Artificial Intelligence and Data Science,  **Year:2023-24 (ODD Sem)**  **MID TERM TEST** |

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| **Class : D11AD** | **Division: NA** |
| **Semester: 6th** | **Subject: Image Processing and Computer Vision** |
| **Date: 1/03/2024** | **Time: 9:00 AM - 10:00 AM** |

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| **Course Outcome** | **CO1** | **CO2** | **CO3** |
| **Percentage %** | 34.37 | 37.5 | 28.12 |

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| **Q.1)** |  | **(Attempt any five of the following)** | **Marks**  **(20)** | **Course Outcomes** |
|  | a) | Can you explain what is meant by the term 'neighbors of a pixel' in the context of digital images? | 2M | 2 |
|  | b) | Outline the key points of advantages and disadvantages of Lossy and Lossless Compression techniques in various scenarios, and propose which method would be more suitable for specific types of data or applications? | 2M | 3 |
|  | c) | Categorize the differences between Image Compression Ratio and Compression Factor, including their mathematical definitions, significance in image compression algorithms, and their respective impacts on image quality and file size?" | 2M | 3 |
|  | d) | Can you explain what a Digital Image is and how it differs from traditional photographic images. | 2M | 1 |
|  | e) | Could you explain the concept of Connectivity of Pixel, referring to how a pixel is considered connected to its neighboring pixels in a digital image. | 2M | 1 |
|  | f) | Identify and describe two specific the distinctions between Bitmap and Vector Image formats, considering factors such as their methods of representation, scalability, and suitability for various types of graphics and applications? | 2M | 1 |
| **Q.2)** | a) | C:\Users\Admin1\Desktop\IVP\PPT\76.png | 5M | 2 |
|  |  | **OR** |  |  |
|  | b) | In Digital image processing system, can you create a functional block diagram illustrating its various components and their interconnections? Additionally, could you articulate the specific purpose and function of each block within the system, highlighting how they contribute to the overall processing and enhancement of digital images? | 5M | 1 |
| **Q.3)** | a) | C:\Users\Admin1\Desktop\IVP\PPT\78.png | 5M | 2 |
|  |  | **OR** |  |  |
|  | b) | Generate a tag using arithmetic coding procedure to transmit the word **INDIA**. | 5M | 3 |