

B.Sc.(H) 5th Semester Examination, 2020(CBCS)

Paper Name: **Microprocessors** Paper Code: **DSE-1**

Subject: Computer Science

F.M:40

Time:2 Hrs.

Answer any eight Questions. 5x8=40

1. Identify the addressing modes & required number of MCs for the following instructions:
a) ADI 70H b) ADD B c) LXI H 3051H d) SUB M e) MVI A 35H
2. Discuss different externally initiated signals including interrupt of 8085 microprocessor.
3. Write a program in 8085 Assembly Language to count number of 1's in an eight bit number.
4. Write the use of following mnemonics:
MVI, ADD , SUB , LDA , LXI
5. Discuss Keyboard Interfacing circuits with a microprocessor.
6. Write a short note on Data Transfer Schemes of 8085 microprocessor.
7. What is the ALE? Discuss how the address bus and data bus of 8085 are demultiplexed.
8. Write a short note on Flag register of 8085 microprocessor.
9. Write a program in 8085 Assembly Language to add ten 8 bit numbers stored in memory location starting from 2000 H.
10. What is PSW? Differentiate between Memory Mapped I/O and Peripheral I/O.

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Paper Name: **Digital Image Processing** Paper Code: **DSE 1**

Subject: Computer Science

F.M:40

Time:2 Hrs.

Answer any eight Questions.

5x8=40

1. Define Sampling and Quantization in respect to digital image.
2. If all the pixels in an image area shuffled, will there be any change in the histogram?
Justify your answer.
3. Differentiate between brightness and contrast of the digital image.
4. Briefly explain Histogram Equalization with proper example.
5. What is Thresholding? Explain its merits and limitations in Image Segmentation.
6. Discuss on Lossy and Lossless Image Compression methods with proper examples.
7. Write a short note on Discrete Cosine Transform.
8. Briefly explain Smoothing and Sharpening Filters in Spatial Domain with proper examples.
9. Explain the Morphological operation to extract the boundary of object for a binary image.
10. Give a few applications of edge based segmentation in the field of digital image processing.