This Question paper consists of ONE page, and is for 60 Marks. **Attempt Questions or Sub-Questions to score maximum marks.** Please print all your answers in the Answer Booklet provided. Scientific Calculator is allowed.

Explain the following, with supporting equations, illustrations, demonstrations wherever required, and their relevance in **Information Retrieval**. Wherever the demonstration needs to be provided, use the data of your choice.

QUESTION 1. Moran's Index   [09 Marks]

QUESTION 2. Mahalanobis Distance   [09 Marks]

QUESTION 3. Ranks for Pairs of Images   [06 Marks]

QUESTION 4. Information dimension via f-α spectra   [06 Marks]

QUESTION 5. Modified Gravity Model in Varibale-Specific Classification   [08 Marks]

QUESTION 6. Skeletonization by Influence Zone (SKIZ), Weighted SKIZ (WSKIZ),
and Cartograms   [06 Marks]

QUESTION 7. Histogram and Thresholding   [06 Marks]

QUESTION 8. K-Mixture Model based probabilistic approach in multidocument summarization
[06 Marks]

QUESTION 9. Morphological Distances in Strategic object Identification of a cluster of compact
non-empty spatial objects   [06 Marks]

QUESTION 10. Granulometries in Delimiter space characterization   [06 Marks]

QUESTION 11. Information Retrieval in Library Information Science   [04 Marks]

QUESTION 12. Binary and Grayscale Morphological Interpolations   [08 Marks]

END OF PAPER