

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA: DEPARTMENT OF
GEOGRAPHY: FIRST SEMESTER EXAMINATION (2009/10 SESSION) DIGITAL
IMAGE PROCESSING (REM 315)

INSTRUCTION: ANSWER THREE QUESTIONS IN ALL: QUESTION ONE AND
ANY OTHER TWO QUESTIONS IN 2 HOURS. CREDIT WILL BE GIVEN FOR
APPROPRIATE ILLUSTRATIONS AND DIAGRAMS

- (1) (a) Explain the purpose for digital image processing.
(b) Using an appropriate diagram, describe a digital image format.
(b) Distinguish between the following image storage formats: Band Interleaved by Pixel (BIP) and Band Sequential (BSQ).
- (2) (a) Mention and distinguish between the two types of errors that could occur during digital image acquisition.
(b) Using ONE example, give detailed description of the very FIRST step taken during digital image processing of LANDSAT image.
- (3) (a) Explain the relevance of studying image histograms prior to embarking on the process of image processing.
(b) Using ANY TWO examples, expatiate on the fact that original images need to be enhanced prior to further processing.
- (4) Explain the image processing technique that involves assigning target names to features in a digital image and highlight the major difference between the two examples of this technique.
- (5) Give a detailed explanation of the technique that permits a comparison of the product of image processing and the reality on ground.

GOOD LUCK!