

DEPARTMENT OF GEOGRAPHY

SCHOOL OF SCIENCE AND SCIENCE EDUCATION

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

1<sup>st</sup> SEMESTER EXAMINATION, 2011/2012 SESSION

COURSE CODE: MET 511

TIME: 3 Hours

COURSE TITLE: ADVANCED PHYSICAL METEOROLOGY

INSTRUCTION: ANSWER ANY **FOUR (4) QUESTIONS** OF YOUR CHOICE

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1) Distinguish between the following terms and processes:

- i) Short wave and Long wave radiation
- ii) Conduction and Convection
- iii) Kinetic energy and Momentum
- iv) Stability and Instability of air parcel
- v) Rotation and Revolution

2) Discuss the role of Ozone, Carbon dioxide and Water vapour in the Earth's radiation balance.

3) Describe with clear illustrations the Radiation Laws and their implications to meteorological processes

4) What is meant by Albedo? And What are the factors that determines the albedo of a given surface?

5) Describe the Synoptic features used by NIMET to develop the 2012 Seasonal Rainfall Prediction in Nigeria.

6) Using relevant illustrations, prepare an essay on Adiabatic Lapse Rate.