

Federal University of Technology Minna
School of Information and Communication Technology
Department of Information and Media Technology

Course Code: [MT 411

Course Title: Green IT – 3units

Time Allowed: 2½hours

Instruction: Answer ALL the questions in Section A and any TWO (2) questions in Section B.

Course Lecturers: Alhassan M. Enagi & Muhammad-Bello Bilkisu

Section A

- 1a. Discuss any five looms to green computing. (5 marks)
- 1b. With annotated diagram, discuss the concept of cloud computing and its architecture (5marks)
- 2a. There are 3-PCs in an office, each PC has a power rating of 0.06kWh per PC. If it costs N50 per kWh, how much will it cost to use two of the PCs for 1 year if the 2-PCs are ON for 8 hours daily? (4mark)
- 2b. Manufacturers of computers use certain chemicals in production, discuss three (3) of the chemical elements used by manufacturers and the problem they pose on the environment (6marks)
- 3a. Distinguish with appropriate examples the following: Reuse, Recycling and Refurbish (6marks)
- 3b. A network server operating at power consumption rate of 300W in idle state emits 200lbs of CO₂ in 10 hours. When it is in stressed state, it emits 600lbs of CO₂ in 5 hours. What is the total amount of CO₂ emitted in 30 days if the server operated in idle state for 3 hours and stressed state for 5 hours daily? (4marks)

Section B

- 4a. Discuss in detail the concept of green IT governance and regulatory issues in Nigeria. (8marks)
- 4b. As an IT manager, how will you handle green IT transformation in your Organisation. (7marks)
- 5a. Sustainable hardware is a new paradigm in green IT. discuss with appropriate example what you understand of the concept. (7marks)
- 5b. How will you introduce the concept of paperless in any organisation and discuss the likely challenges. (8marks)
- 6a. Discuss extensively what you understand by the term "virtualization". (7marks)
- 6b. List any five (5) cloud offering company and the type of cloud service(s) they offer. (2marks)
- 6c. There are certain motivational factors that will necessitate we go green in IT. briefly discuss any three of the traditions you know. (6 marks)
- 7a. Discuss the four phase methodology of Business Process Re-engineering for green IT sustainability. (8marks)
- 7b. In clear terms, explain the requirements of data center design and re-design. (5marks)
- 7c. Enumerate five traditions of gearing up to go green. (2 marks)