

Federal University of Technology Minna
School of Environmental Technology
Department Of Architecture
Second Semester Examination 2015/2016

Course Title: **Building Climatology** Course Code: **ARC 224** Credit Units: **2** Duration: **2½ hours**

Instructions: *There are two (2) sections in all (A & B).
Attempt ALL questions in SECTION A.
Attempt ONLY two (2) questions in SECTION B.
Concise answers and neat drawings attract more marks.*

SECTION A:

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|--|--------|---------|
| 1. What do you understand as climate? | 2marks | |
| 2. What four (4) factors affect climate? | 2marks | |
| 3. List four (4) elements of climate. | 2marks | |
| 4. Distinguish between weather and climate. | 2marks | |
| 5. Offer two definitions of a courtyard? | 4marks | |
| 6. Distinguish between an atrium and a court yard. | 2marks | |
| 7. What is aspect ratio and how is it derived? | 4marks | |
| 8. Distinguish between direct and indirect sunlight | 2marks | |
| 9. State and define the two types of vision. | 2marks | |
| 10. Identify any climatic zone in Nigeria and provide one (1) design consideration each with respect to site planning, openings and material | 6marks | 24marks |

SECTION B: instruction: Attempt only two (2) questions

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| 11. | <ul style="list-style-type: none"> a. Define comfort, thermal comfort and visual comfort b. Briefly explain how temperature and humidity affect thermal comfort c. Briefly discuss any three (3) climatic decisions in the design process. | 3marks
6marks
9marks = 18marks | |
| 12. | <ul style="list-style-type: none"> a. Distinguish between day light and day lighting. b. Define glare and briefly describe any two (2) types. c. With the aid of neat drawings, list and describe the three types of shading devices and the role each plays in glare reduction | 3marks
6marks
9marks = 18marks | |
| 13. | <ul style="list-style-type: none"> a. What do you understand by natural ventilation? b. With the aid of neat drawings, briefly discuss the two (2) natural mechanisms of natural ventilation. c. With the aid of neat sketches, discuss three (3) characteristics each of: <ul style="list-style-type: none"> i. One sided ventilation ii. Cross ventilation iii. Stack ventilation | 2marks
4marks
4marks
4marks = 18marks | |

Total = 60marks