



CRAWFORD UNIVERSITY, FAITH CITY, IGBESA
COLLEGE OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF COMPUTER AND MATHEMATICAL SCIENCES
Bachelor of Science Degree in Information and Communications Technology (ICT)

HARMATTAN SEMESTER EXAMINATION
COURSE CODE: ICT 421

SESSION: 2022/2023

TITLE: TELECOMMUNICATION POLICIES AND REGULATIONS
DURATION: 2.5 HOURS

UNITS: 3

INSTRUCTION: ANSWER QUESTIONS ONE AND ANY OTHER THREE.

QUESTION ONE (30 marks)

- (A) (i) What is Regulation and why do we regulate telecommunication? **(3mrks)**
(ii) Identify the Commercial, Technical and Operational/Framework issues in Interconnection. Briefly discuss the evolution of the telecommunication market and its regulation in Nigeria **(4mrks)**
- (B) (i) Describe the three different structures for the international public telecommunication standards according to the ITU-T Recommendation E.164 for:
-International public telecommunication number for geographic areas. **(2mrks)**
-International public telecommunication number for global services. **(2mrks)**
-International public telecommunication number for networks. **(2mrks)**
(ii) Describe the hierarchical structures of telecommunication numbers according to the same standards in B (i) above **(2mrks)**
- (C) (i) Briefly discuss the following telecommunication terms:
• Regulatory Capture **(3mrks)**
• Collocation **(3mrks)**
• Unbundled Access **(3mrks)**
(ii) Identify, and briefly discuss the specific roles of the regulatory authorities in charge of telecommunications regulation locally (in Nigeria) and internationally (globally) **(6mrks)**

QUESTION TWO (10 marks)

- (A) (i) Briefly discuss the evolution of the telecommunication market and its regulation in Nigeria **(2mrks)**
(ii) Telecommunications firms with market power may try to use their position to reduce competition. Identify some common forms of anti-competitive practices **(3mrks)**
- (B) Discuss the elements of regulatory effectiveness and identify the key success factors for such effective regulation. **(5mrks)**

QUESTION THREE (10 marks)

- (A) (i) What is Spectrum management? Justify the need for regulating RF spectrum access and use. **(2mrks)**
(ii) Briefly discuss the basic approaches to Spectrum management. **(3mrks)**
- (B) Define Technological Convergence in Telecommunication and briefly discuss the levels at which it can exist. **(5mrks)**

QUESTION FOUR (10 marks)

- (A) Countries have considered four main institutional design options when faced with the task of designing and creating telecommunications regulatory entities. Briefly discuss the options available (5mrks)
- (B) Briefly discuss any four (4) methods of fixing the financial terms of Interconnection. (5mrks)

QUESTION FIVE (10 marks)

- (A) Technological convergence poses new regulatory challenges. Discuss five (5) of the major adjustments required for effective regulation in convergent environments (5mrks)
- (B) Explain the concept of 'access' as it relates to Interconnection (5mrks)

QUESTION SIX (10 marks)

- (A) Briefly discuss the forms of spectrum trading and the mechanisms for trading RF spectrum (4mrks)
- (B) Explain the following Spectrum Management terminologies concisely:
- Planning (2mrks)
 - Harmonization (2mrks)
 - Refarming (2mrks)