JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DIPLOMA IN LINUX ENGINEERING

1ST YEAR 1ST SEMESTER 2023/2024 ACADEMIC YEAR

KISUMU CAMPUS

COURSE CODE: ICT 2221

COURSE TITLE: ETHICAL HACKING AND PENETRATION TESTING

EXAM VENUE:

STREAM: Dip. Linux Engineering

DATE:

EXAM SESSION:

TIME: 2 HOURS

Instructions:

1. **Answer question 1 (Compulsory) and ANY other 2 questions.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE [30 MARKS]

a) Differentiate between the following terms (6 Marks)
i. Hacker and ethical hacker
ii. Penetration testing and security testing
iii. Script and Script Kiddies
b) State and explain THREE main Penetration-Testing Methodologies (6 Marks)
c) State and explain FIVE phases in hacking (5 Marks)
d) What is an IP Address? (3 Marks)
e) State and Explain TWO major components of an IP address (4 Marks)
f) Describe THREE main classes of an IP Address (6 Marks)

QUESTION TWO [20 MARKS]

a) State and explain THREE malicious software (6 Marks)

b) Mention FOUR methods of protecting against malwares (4 Marks)

c) Describe FIVE types of Network Attacks (10 Marks)

QUESTION THREE [20 MARKS]

a) Differentiate between foot printing and social engineering (2 Marks)

b) State FIVE Web Tools for Foot printing (5 Marks)

c) State and explain FIVE techniques used in social engineering (10 Marks)

d) State THREE ways of preventing social engineering (3 Marks)

QUESTION FOUR [20 MARKS]

1. Define the term port scanning (2 Marks)

2. Describe FOUR different types of port scans (8 Marks)

3. State and explain FOUR port-scanning tools (8 Marks)

4. Explain what ping sweeps are used for (2 Marks)

QUESTION FIVE [20 MARKS]

1. Define the term vulnerability (2 Marks)

2. State THREE the vulnerabilities of Microsoft operating systems and services (3 Marks)

3. Explain FIVE contents of a comprehensive password policy (5 Marks)

4. Describe FIVE best practices for hardening Microsoft systems (10 Marks)