



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**DEPARTMENT OF COMPUTER SCIENCE & SOFTWARE ENGINEERING**

**UNIVERSITY EXAMINATION FOR THE DIPLOMA IN LINUX ENGINEERING**

**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2015/2016 ACADEMIC YEAR**

**KISUMU LC**

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**COURSE CODE: ICT 2217**

**COURSE TITLE: DESIGN AND IMPLEMENTATION OF SAN-NAS ENTERPRISE**

**STORAGE EXAM VENUE:**

**STREAM: LINUX ENGINEERING**

**DATE: EXAM SESSION:**

**TIME:2HRS**

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### **INSTRUCTIONS**

- 1. Answer Question 1 (Compulsory) and ANY other TWO 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 1 [30 marks]**

1. What is the format of data that is stored in the SAN disk Drives? **(1mark)**
2. What is a protocol? **(1mark)**
3. What is the primary objective of SAN? **(2Marks)**
4. How does SAN Makes Computing Different **(1marks)**
5. Why do we use the term “fibre” and not fiber in relation SAN **(1mark)**
6. State the two types of protocols that SAN uses to move data across the network **(2 mark)**
7. Who should use and not use SAN? **(2marks)**
8. What makes SAN different from other storage technologies? **(2marks)**
9. What the difference between SAN and NAS **(2marks)**
10. What is a clustered NAS and what the difference between it and traditional NAS **(4marks)**
11. Define what a storage Area Network (SAN) Is? **(2marks)**
12. What is RAID and why is it so important in relation to SAN **(4marks)**
13. State four Alternatives to NAS? **(4marks)**
14. Define DAS **(2marks)**

**Question 2 [20 marks]**

- (a) Discuss the different types of backup and clearly bring out their differences. **(10 marks)**
- (b) What are the advantages and disadvantages associated with different types of backups mentioned above? **(10 marks)**

**Question 3 [20 marks]**

- (a) Differentiate between routing and routed protocol. Give two examples of each Give reasons why it is essential to perform backups within an organization. **(20marks)**

**Question 4 [20 marks]**

- a) What makes storage area network different from other storage technologies **(10 marks)**
- b) What features in storage area network makes it useful especially in large companies?  
**(10marks)**

**Question 5 [20 marks]**

- (a) What are The Alternatives to NAS? **(4 marks)**
- (b) Describe the advantages and disadvantages of NAS **(16 marks)**