

(iii) Explain **two** requirements for connecting the network to the internet. (4 marks)

18. (a) Explain **three** ways through which advancement in ICT has benefited national security. (6 marks)

(b) Convert the binary number  $1101.011_2$  to its decimal number equivalent. (3 marks)

(c) A teacher entered test scores in a spreadsheet in the cells range C4 to C38. State the formula that should be used to:

(i) compute each of the following scores:

I. mean of the scores. (1 mark)

II. number of scores whose values exceed 50. (2 marks)

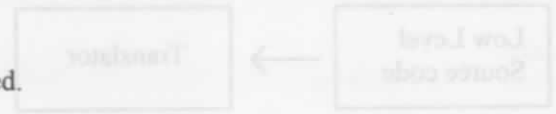
(ii) display the text "PASS" if the score is greater than or equal to 30 and the text "FAIL" if otherwise. (3 marks)

19. (a) State the unit of measure for each of the following quantities in a computer:

(i) Processor speed; (1 mark)

(ii) Memory capacity; (1 mark)

(iii) Data transmission speed. (1 mark)



(b) Explain **three** functions of a query in a database. (6 marks)

(c) Peter created folders named ENG, MATHS and SWAHILI in a folder named STUDIES. In the folder ENG, he created the folders LIT and LANG while in the SWAHILI folder, he created LUGHA and FASIHI.

(i) Draw a Directory tree structure for all the folders created. (4 marks)

(ii) Given that the STUDIES folder is in the root directory of drive D, write the path for a file named REVISION.DOC stored in the LUGHA folder. (2 marks)

20. (a) Explain **three** ways through which computer components in a computer laboratory may be protected against theft. (6 marks)

(b) Computer studies subject has become an essential component of many professions. State **three** benefits of computer knowledge to an engineer. (3 marks)

(c) A school opted to provide internet to users in the school through the use of wireless technology. Explain **three** challenges that the school may face by using this form of technology. (6 marks)