STAREHE BOYS HIGH SCHOOL MOCK 2015

COMPUTER PAPER 1

SECTION A

1. (a) Define the term "cyberspace" **(1 mk)**

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(b) State and elaborate any two interactive sensory equipment used to achieve cyberspace **(2mk)**

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2. Outline any two salient features of a biometric system used for security purposes in a banking hall **(2mk)**

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3. (a) Environmental Protection Agency (EPA) is responsible for reducing consumption of energy by computers. Explain how you can identify a computer that has complied with the energy saving EPA policy **(1mk)**

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(b) Distinguish between a network topology and an internet protocol (**2mks)**

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4. State any two advantages of Infrared Transmission over a bound media **(2mks)**

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5. Mr. Otieno sent an email over the internet at a speed of 200 mps. What was the maximum number of characters sent per second given that each character consisted of 8 bits? (2mks)

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6. (a) Convert the following Hexadecimal numbers to Decimal number equivalent. **(2mks)**

i) $24AA_{16}$

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ii) $ABCD_{16}$

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(b) Use the table below to explain how to use **if** statement to determine the grade of each student based on the mean mark they scored. [Grade A is from 70 to 100, Grade B is from 50 to 69 and grade C is from 40 to 49, while grade E is from 0 to39]. Show the formulae **(2mks)**

	A	B	C
1	**Name**	**Mean Mark**	**Grade**
2	Ben	80	
3	Mark	70	
4	Ann	50	
5	Mary	65	
6	Tom	55	
7	Yuri	45	

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7. Outline any two advantages of using two's complement (2C) method over one's complement (1C) in conversion of one number system to another. **(2mks)**

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8. State any three conditions that guide a programmer in problem definition during program development process. **(2mks)**

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9. (a) Distinguish between logical file and physical fileas used in storage media. **(2mks)**

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(b) List down any application areas that heavily relies on real time processing of data **(2mks)**

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10. Distinguish between Data inheritance and data encapsulation. **(2mks)**

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11. (a) Outline any 3 functions of Novell operating systems **(3 mks)**

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(b) List down **FOUR** differences between microcomputers and minicomputers. **(2mks)**

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12. State any **two** uses of an uninterruptable power supply unit **(2mks)**

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13. List down any 3 special purpose keys found on an Ergonomic keyboard. Explain with examples how they are used **(3mks)**

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14. Differentiate between the following monitor displayterminologies **(2 mks)**

i) Pixel

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ii) Resolution

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15. Giveany two examples of Vendor off- the- shelf software **(2mks)**

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SECTION B (60marks)

Answer question 16 and any other three questions from this section in the spaces provided.

16. (a) (i) Outline chronologically the 6 stages of program development life cycle. **(3mks)**

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(b) State and explain the 2 main errors made during program development. **(2mks)**

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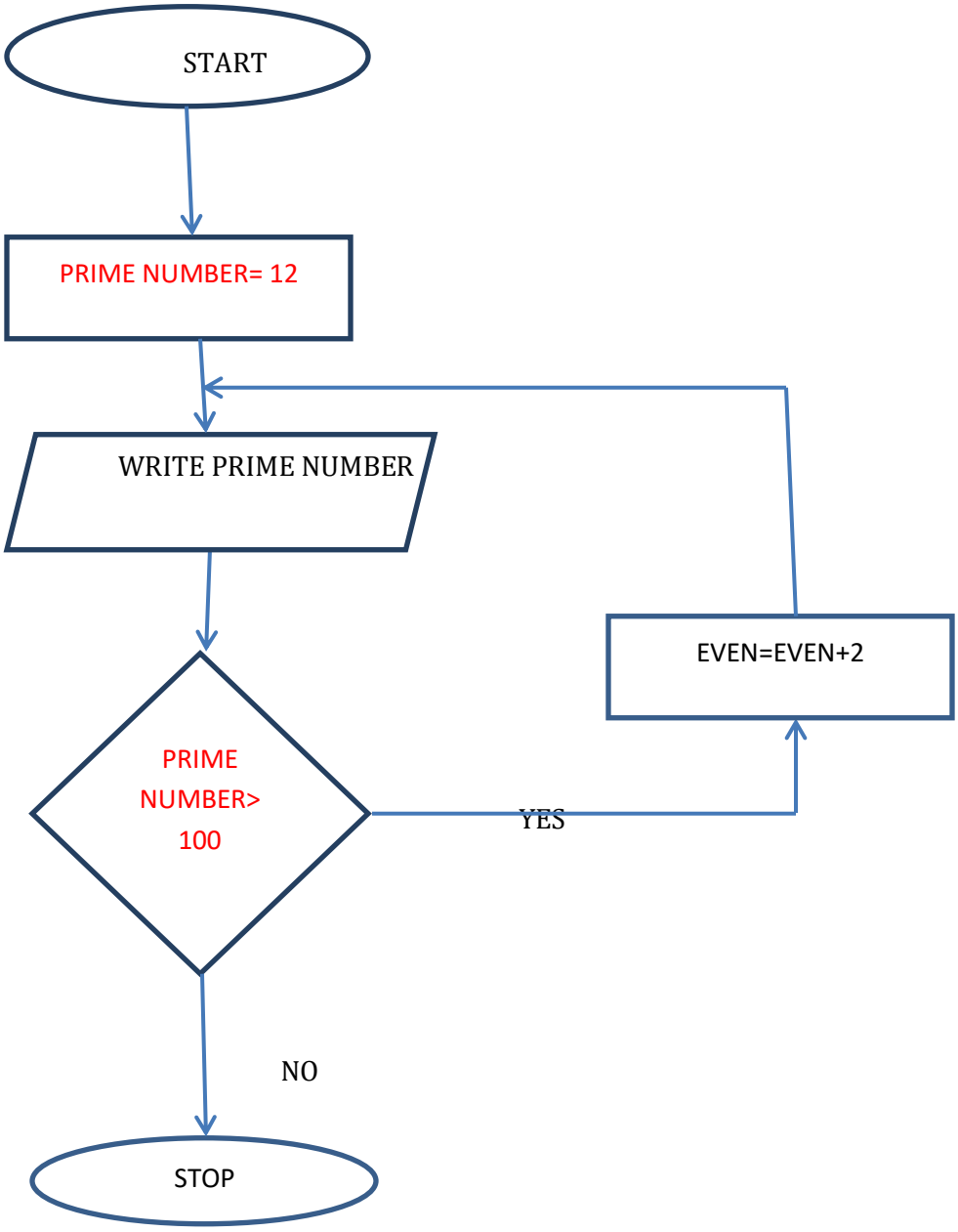
(c) During the National Heart run, students collected money. As a programmer you have been approached to write a pseudo code that prompts the user to input the name of the student and the amount of money collected by each student in your class which has 20 students. Obtain the name of the student who collected the most money and output the name and the amount. (7 marks)

(d) Studythe flow chart below



What would be the output from the program? **(3 marks)**

17. (a) Distinguish between Wide Area Network and Local Area Network

(i) Wide Area Network **(1mk)**

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(ii) Local Area Network **(1mk)**

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(iii) Explain how you can implement a peer to peer Local Area Network stating the hardware requirements as well. **(5mks)**

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(b) (i) state two reasons why microwave transmission has become very popular. **(2mks)**

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(ii) Explain any 3 factors that limit an organization from setting up and implementing an efficient Local Area Network **(3 mks)**

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(c) Name and explain with an aid of a diagram any three types of network topologies. (**4mks)**

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18. (a) (i)Explain briefly any 4 functions of a central processing unit of a microcomputer **(2mks)**

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(iii) Name any two microchips found in a motherboard of a microcomputer **(2mks)**

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(b) Explain the machine cycle of a central processing unit **(4mks)**

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(ii) Given that 1 kilo byte is equivalent to 1024 bytes, calculate the number of bytes in a terabyte **(2mks)**

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(iii) Outline any TWO characteristicsof staticRandom Access Memory **(2mks)**

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(c) Distinguish between a buffer and a registeras used in computer memories. **(2mks)**

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(d) Explain why Unix operating system perform the following activities on a storage device

i) Formatting **(1mk)**

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Ii) Defragmentation **(1mk)**

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19. (a) Explain any three common features of a word processor. Give example in each case **(6 mks)**

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(b) Outline and explain any three document formatting activities found in page setup dialogue box

(6 mks)

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(c) Distinguish between superscript and subscript as they appear in any word processor

(i) Superscript **(1mk)**

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(ii) Subscript **(1mk)**

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(d) Define a master page in desk top publishing. **(1mks)**

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20. (a) Define the following terminologies.

(i) Worksheet. **(1mk)**

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(ii) Workbook. **(1mk)**

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(iii) Database. **(1mk)**

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(b) State TWO advantages and TWO disadvantages of a database management system to employees in an organization

Advantages **(2 mks)**

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Disadvantages **(2 mks)**

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(c) (i) Define the termprimary key How is it different from index **(2mks)**

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(ii) Distinguish between a flat file and a hierarchical database model **(2mks)**

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(d) (i) Explain two importance of queries in databases to an organization. **(2mks)**

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(ii) Differentiate between parameter query and append query as used in MS access.**(2mks)**

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