**FORM 3 TERM 3 2023**

**COMPUTER STUDIES**

SECTION A

1. Describe the following computer memories (2marks)
2. i) Register

 ii) Cache

1. Give two differences between a compiler and an interpreter (2marks)
2. List any four threats to a computer system (2marks)
3. In database field properties specify finer details related to the fields and table entries expected. Explain the functions of the following
4. Caption (1mk)
5. Required (1mk)
6. Input mask (1mk)
7. Distinguish between relative and absolute cell references as used in spreadsheets (2marks)
8. Convert the binary number 1010 1111 0101 10111.01 to its
9. Octal equivalent (show working) (1mark)
10. Hexadecimal equivalent (show working) (1mark)
11. Consider the module flowchart extract below



 b)

 After scanning images in a DTP, you can either crop them or resize them. Distinguish between cropping and resizing of images (2marks)

 c)

 Give two reasons why magnetic tape is not a popular secondary storage device (2marks)

1. State two reasons why an organization may use other strategies of software acquisition other than developing their own (2 marks)
2. Consider the worksheet given below

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | C | D |
| 1 | ADM NO | STUDENT NAME | SEX | FEES PAID |
| 2 | 4988 | Polycarp Ochuka | M | 7800 |
| 3 | 4990 | Rose Nabalayo | F | 10200 |
| 4 | 4950 | Risper Chepkemei | F | 9800 |
| 5 | 4987 | Peter Okongo | M | 7700 |
| 6 |  |  |  |  |

1. Give a formula that can be typed in cell D6 to return the fees paid by female students (2 marks)
2. Give a formula that can be typed in C6 to return the number of male students (2marks)
3. Define the following as used in word processing (2marks)
4. Word wrap
5. Drop cap
6. As regards to database systems:
7. Distinguish between a primary key and foreign key (2marks)
8. Define the term normalization (2marks)
9. Explain two reasons why an organization may need information system (2marks)
10. Identify the computer generation that is associated with the following characteristics (4mks)
11. Use of computers that imitate human intelligence
12. Use of punched cards for data input
13. Use of large scale integrated circuits
14. Use of cloud storage
15. Distinguish between line spacing and character spacing as used in word processors (2marks)
16. State two circumstances that necessitate encryption of data in computer systems (2marks)
17. Kennedy inserted a flask disk in a computer to print out a document stored in it but the error message “USB not recognized ” appeared on the screen of the computer . State two possible causes of the error message. (2marks)

SECTION B

1. Explain the term dry running as used in program development (2marks)
2. State three qualities of a good pseudocode (3marks)
3. Third generation programming languages are referred to as procedural or structured languages. State three advantages of structured programming (3marks)
4. To qualify to get a driving license, an applicant must be 18 years and over. Ten candidates applied for the driving license test. Draw a flowchart that would read the name and age of an applicant and display the names of those who qualify (7 marks)
5.
6. State four outcomes that may result from using incorrect requirement specification during system development (4 marks)
7. A school opted to use direct changeover approach when installing a new system. Explain three challenges that the school may face as a result of this approach (3 marks)
8. State two characteristics of open systems that make them better than closed system (2marks)
9. State the functions of each of the following during system construction (2marks)
10. Programming languages
11. Invalid data
12. Explain two reasons why an organization may change an existing information system (4marks)
13.
14. One of the characteristics of solid state drives is the use of electronic circuits to store data. Explain how binary logic is used to represent data in these devices (2 marks)
15. Convert (17.05)10 to its binary equivalent (3 marks)
16. Using twos complement and 8 bit notation, perform the following subtraction (4 marks)
17. Perform the following binary arithmetic (4 marks)
18. Use the spreadsheet below to answer the questions that follow

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G | H | I | J | K |
| 1 |  |  |  |  |  |  |  |  |  |  |  |
| 2 | **NAME** | **CLASS** | **ADM NO** | **CAT 1** | **CAT 2** | **CAT 3** | **TOTAL** | **AVERAGE** | **SCORE** | **OVERALL POSITION** | **REMARK** |
| 3 | Maina John | E | 7984 | 80 | 70 | 59 |  |  |  |  |  |
| 4 | Kevin Korir | W | 7896 | 75 | 55 | 72 |  |  |  |  |  |
| 5 | Bernard K. | E | 8092 | 86 | 59 | 75 |  |  |  |  |  |
| 6 | John Soi | E | 7460 | 80 | 79 | 70 |  |  |  |  |  |

1. Write the function used to assign Bernard position (2 marks)
2. Write a function in cell B7, which would be used to count the number of students from “E” (2 marks)
3. Write a function that would calculate the totals of totals that are greater than 280 (2 marks)
4. Identify any four formatting features use in Row 2 (2 marks)
5. Differentiate between action query and select query (2 marks)
6. Describe two types of error that may occur during data processing (4 marks)
7. State two methods of data collection (1 mark)
8.
9. Differentiate between a database and a DMBS (1 mark)
10. List four advantages of using electronic database systems (2 marks)
11. Describe the following electronic data processing modes
12. Real-time processing (1 mark)
13. Distributed processing (1 mark)
14. Online processing (1 mark)
15. Timesharing processing (1 mark)
16. Multi-processing (1 mark)
17. Multiprogramming/multi-tasking (1 mark)

1. Briefly describe any three database models (6marks)