

26. Which of the following relationships is **not** associated with a relational database?
- One-to-One
 - Any-to-Any
 - One-to-Many
 - Many-to-Many
27. The **most** effective strategy to incorporate *ICT* tools in education to access students' understanding in real-time is to
- implement online polling and quiz platforms for instant feedback.
 - implement manual quizzes for later grading and provide feedback.
 - use an interactive whiteboard to display key concepts during lessons.
 - replace classroom discussions with recorded videos for self-paced learning.
28. The hexadecimal representation of the binary number 11110000_2 is
- C0
 - D0
 - E0
 - F0
29. Which of the following binary numbers converts to the hexadecimal number A7?
- 1000011_2
 - 10100111_2
 - 11000011_2
 - 10010111_2
30. Which of the following factors is the **most** important consideration when designing a multi-page document for commercial printing?
- Setting up proper bleed and margins to avoid cutting off content
 - Using the highest resolution images available, regardless of file size
 - Ensuring that all images are in RGB colour mode for better vibrancy
 - Using a wide variety of fonts to make the document visually appealing
31. Given a dataset with columns: Product, Region, and Sales. A user wants to create a PivotTable to show the total sales for **each** product by region. What fields should the user place in the Rows and Columns area?
- Rows: Region, Columns: Product, Values: Sales
 - Rows: Sales, Columns: Product, Values: Region
 - Rows: Product, Columns: Sales, Values: Region
 - Rows: Product, Columns: Region, Values: Sales
32. The number of cells contained in the worksheet range of A1:D2 is
- 2
 - 4
 - 6
 - 8
33. A user is working with a large dataset in a Spreadsheet and needs to highlight rows where sales exceeded Gh¢ 50,000.00. Which of the following activities is the **most** efficient method?
- Use the IF function to check each row manually.
 - Sort the dataset in descending order and colour the high-value rows.
 - Apply Conditional Formatting with a rule based on the sales column.
 - Filter the dataset and use Find and Replace to highlight values over Gh¢ 50,000.00.
34. The **best** way to prevent damaging a personal computer with static electricity is to
- wear an electrostatic discharge wrist strap.
 - wear a rubber shoe when using the computer.
 - always place the personal computer on a table.
 - periodically touch the personal computer to discharge electrons.

Give only **one** answer to **each** question. An example is given below.

Which of the following options is used to speed up data retrieval in database?

- A. Data file
- B. Key field
- C. Offline storage
- D. Program file

The correct answer is **Key field**, which is lettered **B**, and therefore answer space **B** would be shaded.

☐ A ☒ B ☐ C ☐ D

Think carefully before you shade the answer spaces; erase completely **any** answers you wish to change.

Do all rough work in this question paper.

Now answer the following questions.

1. The purpose of Transaction Processing System as part of an Information System is to
 - A. analyze large datasets for trends.
 - B. support strategic decision-making.
 - C. manage day-to-day business transactions.
 - D. store historical data for reporting to management.
2. Which of the following statements is a characteristic of digital citizenship?
 - A. The practice of creating digital art for online resources
 - B. Responsible use of technology and online interactions
 - C. Ability to make online purchases secure and profitable
 - D. The exclusive use of digital devices for educational purposes
3. In Desktop Publishing application, a layout basically helps a user to
 - A. edit video files during the design stage.
 - B. store images and graphics in soft copy form.
 - C. develop the content of a website from scratch.
 - D. arrange texts, images, and other elements in a document.
4. The purpose of using the Freeze Panes feature in a Spreadsheet application is to
 - A. prevent data from being saved while scrolling through the rest of the worksheet.
 - B. resize columns based on the content while scrolling through the rest of the worksheet.
 - C. keep specific rows or columns visible while scrolling through the rest of the worksheet.
 - D. lock rows and columns from editing while scrolling through the rest of the worksheet.
5. In computer hardware, running the CPU at a higher speed than its original specification is termed
 - A. clocking.
 - B. sub-clocking.
 - C. overclocking.
 - D. under-clocking.
6. Which of the following utility programs is used to manage and configure hardware components and their drivers in an Operating System?
 - A. System Restore
 - B. Task Scheduler
 - C. Device Manager
 - D. Disk Defragmenter

15. Which of the following image file formats is an example of vector graphics commonly used in Desktop publishing?
- SVG
 - PNG
 - BMP
 - JPEG
16. Which of the following formulae specifies the **correct** usage of an absolute reference in a Spreadsheet application?
- =A1+BS\$2\$
 - =A1+\$B2\$
 - =A\$1+B\$2
 - =A\$1+B2
17. The speed at which data, instructions, and information is transferred to and from a device is called
- access time.
 - reading rate.
 - transfer rate.
 - formatting rate.
18. Which of the following media types is an example of a primary storage?
- Cache Memory
 - Hard Disk Drive
 - Solid State Drive
 - Random Access Memory
19. Which of the following programs is a text editor?
- Scribus
 - Notepad
 - Open Office
 - Microsoft Word
20. Which of the following processes is a memory management technique in Operating Systems?
- Paging
 - Partitioning
 - Fragmentation
 - Defragmentation
21. Which of the following statements **best** describes the purpose of a compiler in programming languages?
- It optimizes the runtime performance of interpreted languages.
 - It executes code line by line without producing an executable file.
 - It converts machine code into high-level code for debugging purpose.
 - It translates high-level code into machine code all at once, producing an executable file.
22. What is the **correct** way to create an ordered list in an **HTML** program?
- `<ol> <li>Item 1</li><li>Item 2</li></ol>`
 - `<ul> <li>Item 1</li><li>Item 2</li></ul>`
 - `<list> <li>Item 1</li><li>Item 2</li></list>`
 - `<ol> <item> Item 1</item><item> Item 2</item></ol>`
23. Which of the following functions is a **common** use of the **ICMP** protocol?
- Sending e-mail
 - Routing data packets
 - File transfer services
 - Testing network connectivity
24. Which of the following protocols is used for secure file transfer over a network?
- FTP
 - SFTP
 - SMTP
 - DHCP
25. Which of the following options is a characteristic of a normalized database?
- Data is stored in a flat file
 - Data redundancy is minimized
 - Data is stored in a text file format
 - Data is organized into a single table

35. The **main** advantage of using Error-Correcting Code memory in a workstation or server is that it
- reduces power consumption significantly.
 - allows the RAM to be overclocked without risk.
 - increases the clock speed of RAM beyond standard limits.
 - detects and corrects memory errors to improve system stability.
36. Which of the following signs depicts that a *CMOS* battery is running out of power in the computer?
- Fails to boot properly
 - Gives a long beep sound
 - Starts losing information in memory
 - Starts showing incorrect date and time
37. When building a high-performance computer, which factor is the **most** important when selecting a power supply unit?
- The physical size of the computer
 - Total wattage and efficiency rating
 - The number of USB ports available
 - The colour of the power supply unit casing
38. The backup method that only stores files that have been modified since the last backup, thereby optimizing storage space is referred to as
- full backup.
 - cloud backup.
 - differential backup.
 - incremental backup.
39. A user notices that their system is running slower than usual due to high *RAM* consumption. Which utility software can help them identify and close resource-intensive applications?
- Task Manager
 - Registry Editor
 - System Restore
 - Device Manager
40. The *QBASIC* statement `PRINT 5*2+3` will output the result on the screen as
- 10
 - 13
 - 25
 - 30
41. Study the following *QBASIC* code snippet:
- ```
INPUT "Enter a number: ", N
PRINT "The square of the number entered is: " N^2
```
- What will be the output if a user input the number 5?
- The square of the number entered is 5
  - The square of the number entered is 10
  - The square of the number entered is 25
  - The square of the number entered is 125
42. Which of the following statements is the **correct** syntax for using the *WHILE* loop in *QBASIC*?
- `WHILE X>2`
  - `DO WHILE X>2`
  - `LOOP WHILE X>2`
  - `REPEAT WHILE X>2`

7. In which of the following programming languages is memory management primarily handled by the developer, requiring explicit allocation and deallocation of memory?
- C
  - C++
  - Java
  - Python
8. What is the **correct** HTML element used to define important text with emphasis?
- <p>
  - <br>
  - <body>
  - <strong>
9. The function of a firewall in a computer network is for
- data encoding.
  - error checking.
  - data encryption.
  - intrusion detection.
10. Which of the following SQL commands is used to modify data that is already in a table?
- INSERT
  - SELECT
  - DELETE
  - UPDATE
11. The fundamental purpose of using ASCII in computing systems is to encode
- texts into binary format.
  - videos into binary format.
  - images into binary format.
  - numbers into binary format.
12. Which of the following statements **best** describes the role of an Enterprise Resource Planning System in an organization?
- It is used solely for customer relationship management.
  - It integrates core business processes into a unified system.
  - It focuses only on financial transactions within a business.
  - It primarily deals with cybersecurity and risk management.
13. The purpose of a Data Warehouse in the context of an Information System is to
- manage and secure sensitive customer information.
  - provide real-time transaction processing for day-to-day operations.
  - store historical data from multiple sources for analysis and reporting.
  - facilitate communication between different departments in an organization.
14. The primary ethical concern associated with the selection of algorithm for use in digital technology culture is that, algorithms can
- increase the cost of digital services for consumers.
  - perpetuate bias and discrimination if not designed carefully.
  - reduce the need for human creativity in digital content creation.
  - influence computational power, leading to environmental concerns.

43. Study the following *QBASIC* code snippet:
- ```

INPUT "Enter a number: ", X
IF X MOD 2 = 0 THEN
PRINT "The number is Even"
ELSE
PRINT "The number is Odd"
ENDIF

```
- What will be the output if a user input the number 8?
- The number is X.
 - The number is 8.
 - The number is Odd.
 - The number is Even.
44. Which of the following security protocols is used for wireless networks?
- SSH
 - SSL
 - WPA2
 - IPSEC
45. Which of the following subnet masks is invalid?
- 255.255.224.0
 - 255.255.252.0
 - 255.255.255.240
 - 255.255.128.255
46. In an IPv4 addressing scheme, the total number of bits is
- 32
 - 48
 - 64
 - 128
47. A **key** advantage of using a relational database management system over a flat-file system is
- reduced data redundancy.
 - faster data access for small datasets.
 - simplicity in design and implementation.
 - no need to use structured query language.
48. Which of the following characteristics is **not** an *ACID* property of a transaction in a database management system?
- Atomicity
 - Durability
 - Consistency
 - Independence
49. Which of the following types of database indexes is **most** commonly used to search for **each** specific value in a column?
- Hash index
 - B-tree index
 - Bitmap index
 - Clustered index
50. Which of the following statements is a **major** benefit of using cloud computing in education?
- Lack of data security in the cloud system
 - Real-time access to resources and documents
 - Reduced collaboration among teachers and learners
 - Increased hardware costs to educational institutions

END OF PAPER