

ASSOCIATION OF ACCOUNTANCY BODIES IN WEST AFRICA

ACCOUNTING TECHNICIANS SCHEME, WEST AFRICA

PART II EXAMINATIONS – SEPTEMBER 2021

INFORMATION TECHNOLOGY

Time Allowed: 3 hours

SECTION A: PART I MULTIPLE-CHOICE QUESTIONS (30 Marks)

ATTEMPT ALL QUESTIONS IN THIS SECTION

Write ONLY the alphabet (A, B, C, D or E) that corresponds to the correct option in each of the following questions/statements

1. Recorded facts in respect of sales made in a supermarket is an example of
 - A. Recorded sales
 - B. Sales information
 - C. Data
 - D. Transaction record
 - E. Sales record

2. Which of the following is a characteristic of information?
 - A. Wholesome
 - B. Informative
 - C. Meaningful
 - D. Unrelenting
 - E. Vague

3. The process of bringing data to life is known as data
 - A. Rebirth
 - B. Origination
 - C. Recording
 - D. Sourcing
 - E. Recycling

4. Data obtained from interview or questionnaire is said to have asource
 - A. Primary
 - B. Secondary
 - C. Open

- D. Closed
 - E. Hybrid
5. What is the main purpose of producing information?
- A. To inform managers
 - B. For assisting managers
 - C. For direction
 - D. Decision making
 - E. To ensure data is processed
6. What is transaction data?
- A. Recorded facts in respect of transactions that occurred or occurring
 - B. Facts in respect of operational activities
 - C. Facts needed for master-file processing
 - D. Current active data
 - E. Obsolete data
7. In computing, the basic unit of storage is
- A. Bit
 - B. Byte
 - C. Kilobyte
 - D. Megabyte
 - E. Gigabyte
8. In computing, 1 kilobyte is equal to bits
- A. 1000
 - B. 1024
 - C. 3072
 - D. 8000
 - E. 8192
9. A file is a records
- A. Collection of
 - B. Sequence of
 - C. Series of
 - D. Group of
 - E. Collection of related

10. A database consists of data
- A. Contiguous
 - B. Serial
 - C. Combined
 - D. Structured
 - E. Grouped
11. Which of the following is **NOT** an hexadecimal digit
- A. A
 - B. 0
 - C. 3
 - D. 4
 - E. 11
12. Convert 101_2 to base 8
- A. 3
 - B. 4
 - C. 5
 - D. 6
 - E. 7
13. Bit is an acronym for
- A. Business information technology
 - B. Business information technique
 - C. Business in information technology
 - D. Business and information technology
 - E. Binary digit
14. How many bits has a nibble?
- A. 2
 - B. 3
 - C. 4
 - D. 5
 - E. 8

15. One reason a computer output may be wrong is, if the program used for the processing is not
 - A. Executing properly
 - B. Communicating with the display unit or printer
 - C. Aligning with the data
 - D. Logically correct
 - E. Sequentially arranged

16. Which of the following is **NOT** a microcomputer?
 - A. IPAD
 - B. Notebook
 - C. Laptop
 - D. Palmtop
 - E. Desktop

17. Computer is said to be portable if it
 - A. Has a small size
 - B. Can be moved around with ease
 - C. Can be carried in a bag
 - D. Is convenient to be offered as a gift
 - E. Can be taken along in travel

18. An advantage derived from using a computer is
 - A. It is completely secured
 - B. It allows for backup
 - C. It is portable
 - D. It provides accurate results
 - E. It can be used anywhere

19. In computing, a backup is a term used to describe
 - A. Backlog of data and information
 - B. Extra copy of data and information
 - C. Storage for data and information
 - D. Auxiliary support for data and information
 - E. Data and information stored on disk

20. Which of the following is **NOT** a component of the Central Processing Unit?
- A. Processor
 - B. Memory
 - C. Arithmetic and Logical Unit (ALU)
 - D. Control unit
 - E. System unit
21. The number of bits in a Word on a binary Computer is
- A. 4
 - B. 8
 - C. 16
 - D. 32
 - E. 64
22. Software that makes resources of a computer available for use is
- A. Application software
 - B. Accounting software
 - C. Spreadsheet software
 - D. System software
 - E. Desktop publishing software
23. The function of an operating system is
- A. Memory management
 - B. Disk formatting
 - C. Mouse installation
 - D. File saving
 - E. Program typing
24. Operating system that allows multiple users simultaneously is called
- A. Single user system
 - B. Single tasking system
 - C. Multi user system
 - D. Multitasking system
 - E. Network system

25. Application package that performs more than one function is referred to as
- A. Customised package
 - B. In-house package
 - C. Altered off the shelf package
 - D. Integrated package
 - E. Off-the-shelf package
26. In Windows environment, the components of the desktop are
- A. Icons, Title bar, and screen display
 - B. Menu bar, background, and icons
 - C. Task bar, Title bar, and Icons
 - D. Menu bar, background, and Task bar
 - E. Task bar, background, and icons
27. Which of the following is a characteristic of star topology?
- A. There is point to point connection between server and clients
 - B. When one client breaks down it affects all other clients
 - C. When server breaks down communication continues between clients
 - D. Communication between the clients is not necessarily via the server
 - E. Server cannot control the network
28. An example of simplex transmission system is
- A. Radio broadcast
 - B. Walkie-talkie communication
 - C. Telephone conversation
 - D. Human computer interaction
 - E. Satellite communication
29. In data transmission system, a protocol is
- A. An order for doing things
 - B. A set of rules guiding parties involved in communication
 - C. A set of instructions for network systems
 - D. Rules for communication on internet
 - E. Operating system commands

30. How many layers has an Open System Interconnection model?
- A. 102
 - B. 9
 - C. 8
 - D. 7
 - E. 6

SECTION A: PART II SHORT-ANSWER QUESTIONS (20 Marks)

ATTEMPT ALL QUESTIONS

Write the correct answer that best completes each of the following questions/statements

1. When there is the presence of more than one task belonging to different users in the memory for processing at the same time by a single processor, the processing technique is called
2. A computer network that links devices within a building or group of adjacent buildings within a limited radius is known as.....
3. A is an arrangement of interconnecting devices in which each device connects to exactly two other devices forming a single continuous pathway for signals through each device
4. The computing terminology for a class of electronic devices that solve problems by processing information in discrete form is called
5. The system that allows a user to perform more than one computer task at a time in such a way that the operating system is able to keep track of the tasks and go from one to the other without losing information is known as
6. A sequence of logically arranged statements expressed in a computer language is known as
7. The collection of machineries used in computer operations is generally referred to as.....
8. Supporting machineries for computer operations usually attached to the system unit are known as

9. A is a computer output that cannot be touched physically
10. A diamond-shaped box depicts in a flowchart
11. Computer processing that occurs instantaneously as data input occurs is known as
12. A block of text is when the left mouse button is pressed down and dragged over it
13. A ready-made suite of programs for solving general computing problems is called a.....
14. In programming, a first or preliminary version of a program from which other versions are developed is called
15. The fraudulent practice of sending e-mails claiming to be from reputable companies in order to induce individuals to reveal personal information is called
16. In computing, a is any malware which misleads users of its true intent
17. Computer program that enables user to create and edit text files is called
18. The data transfer method that is characterised by a continuous stream of data in the form of signals accompanied by regular timing signals generated by some external clocking mechanism is called
19. The web page that is displayed on entering a website which contains hyperlinks to other webpages is called
20. A software that allows a user to surf the internet is called

QUESTION 3

- a. State **FIVE** merits of the use of internet in a business organisation.
(2½ Marks)
- b. State **FOUR** points you will consider as features of an efficient information system.
(4 Marks)
- c. Explain **THREE** ways information systems may differ from one organisation to the other.
(6 Marks)
- (Total 12½ Marks)**

QUESTION 4

- a. Some years back, Ade limited, one of the leading oil companies computerised all their operations, yet, processing problems are still being experienced.

Required:

Identify and explain **FIVE** of the likely factors contributing to their system problems.
(5 Marks)

- b. Your company is about to be supplied with a super microcomputer that supports five other computers. You are asked to give your opinion on merit and demerit of distributing the other five computers to other departments located within the headquarters (as against other branches outside the headquarters).

Required:

State **FIVE** merits and **ONE** demerit of the above scenerio. (6 Marks)

- c. State **THREE** features of an electronic data processing system
(1½ Marks)
- (Total 12½ Marks)**

QUESTION 5

- a. Explain the term “data collection”
(2½ Marks)

- b. Highlight **TWO** weaknesses and **THREE** strengths for each of the following methods of data gathering:
- i. interviewing
 - ii. questionnaire
 - iii. sampling and measuring
 - iv. observation
- (10 Marks)
(Total 12½ Marks)

QUESTION 6

- a. Explain the processes of **TWO** methods of system changeover during systems implementation and state **TWO** advantages of each of the methods stated. (6 Marks)
- b. i. What is file conversion? (2½ Marks)
- ii. State **FOUR** factors that would be considered in developing a procedure for file conversion. (4 Marks)
- (Total 12½ Marks)**

SOLUTION TO QUESTIONS

Multiple Choice Questions

- 1 C
- 2 C
- 3 B
- 4 A
- 5 D
- 6 A
- 7 B
- 8 E
- 9 E
- 10 D
- 11 E
- 12 C
- 13 E
- 14 C
- 15 D
- 16 A
- 17 B
- 18 D
- 19 B
- 20 E
- 21 C
- 22 D
- 23 A
- 24 C
- 25 D
- 26 E
- 27 A
- 28 A
- 29 B
- 30 D

SHORT ANSWER QUESTION

1. Multiprogramming
2. Local Area Network (LAN)
3. Ring Topology
4. Digital Computer
5. Multitasking system
6. Computer program
7. Hardware
8. Peripherals
9. Softcopy
10. Decision
11. Real-time processing
12. Highlighted
13. Application package
14. Prototype
15. Phishing
16. Trojan horse
17. Editor
18. Synchronous transmission
19. Home page
20. Browser

ESSAY QUESTIONS

QUESTION 1.

- (a) i) A distributed processing system is one in which computing power is distributed over a network of computers. That is, processing could be done at the terminals. For example, a bank's central computer at the headquarters may be linked to all the computers at its branch offices. Each branch could store and process its own data on its own computer while the data is accessible from any of the other computers of the other branches.

[1½ marks]

ii) **Advantages**

- (1) Easy access to data
- (2) Timeliness of information necessary for processing
- (3) Central control of data still possible
- (4) Quick decision possible due to the fact that a terminal does not depend on any other to process its own data.

[½ mark each= 2 Marks]

Limitations

- (1) Overhead cost of connections and communication may be high
- (2) May require very tight security measures to prevent unauthorized access to data.
- (3) Implementation may be highly technical
- (4) May not be easy in an environment with poor or inadequate infrastructures.

[½ mark each-2 Marks]

- (b) The following factors will determine the choice of storage devices and (c) media;

- (1) Volume of data to be processed in which case high capacity storage will be chosen for large volumes
- (2) Frequency of processing, so that durability is a significant factor.
- (3) Cost of devices so that only those that are affordable will be bought.
- (4) File organization methods required. For example; where indexed-sequential file organization is necessary as in sales analysis, a disk will be preferred, while it is more economical to use tape for files that are strictly sequential.

[Any three; 1 mark each= 3 Marks]

- (c) **Meaning**
i/o devices mean input and output devices. [1 mark]

Main functions

Input devices are used for passing data and programs into the computer [½ mark]

Output devices are used for presenting output from the computer to the user [½ mark]

Examples

Input devices; keyboard, mouse, scanner, etc. [1 mark]

Output devices; monitor/ display unit, printer, plotter, etc. [1 mark]

QUESTION 2.

(a) **Definition**

Software is a terminology used to refer to computer programs or set of instructions expressed in computer language which the computer performs for its operations [1½ marks]

Examples

1. Operating system is a software that makes it possible to operate the computer, and [1 mark]

2. Payroll software is the one that makes it possible to use the computer to prepare salary and produce pay-slips. [1 mark]

(b) 1) Cost of package

2) Scope or depth of the package

3) User friendliness

4) Maintenance agreement

5) Running cost

6) Training requirements [Any five, 1 mark each=5 Marks]

(c) 1) No need to employ programmers

2) Cost of implementation will reduce

3) More application areas are covered with application packages, thus reducing future costs of acquiring software to cover such areas

[Any two, 2 marks each= 4 Marks]

QUESTION 3.

(a) Merits of using internet

1. Globalization
2. Internet never sleeps
3. Increased online sales
4. Potential customer base
5. More clients
6. Enhanced customer service
7. Better networking opportunities
8. Reduced expenses
9. Increased productivity [Any five; ½ mark each= 2½ Marks]

(b) An efficient information system

- (1) should provide reliable information
- (2) should be cost effective
- (3) must have easy retrieval facility
- (4) must incorporate appropriate security control
- (5) must have good storage facility [Any four; 1 mark each= 4 Marks]

- (c)
- 1) Different organizations may require different information needs.
 - 2) Nature of Information systems may differ because of different organizational objectives.
 - 3) The size of an organization will affect the volume of data entering an information system. Therefore an organization may have a large information system compared to the small information system in another organization.
 - 4) The method of data processing in an organization also affects the IS in such an organization and since all organizations don't use the same method of data processing their information systems are bound to be different.
 - 5) In computerized environment, the hardware system configuration may also affect the nature of information system.

[Any three; 2 marks each = 6 Marks]

QUESTION 4.

a)

- a) Data may not be properly vetted before processing.
- b) Computer programs used for processing may contain bugs.
- c) System design may be inadequate.
- d) Hardware systems may not be compatible with nature of work.
- e) Software systems may not be compatible with nature of work.
- f) Hardware or software systems may not be properly installed.

[Any five; 1 mark each= 5 Marks]

b)

Since there is a super micro computer that can support five microcomputers and since the other 5 micro computers were distributed to some departments within the headquarters instead of distributing to the branch offices. Then, what is required is Merits and Demerits of a Local Area Network (LAN) over a Wide Area Network (WAN)

Merits of LAN over WAN

- 1) Distortion of data usually found in data transmitted over long distances is eliminated
- 2) It is relatively cheap
- 3) It does not require the use of Modems as connection of equipment is done using cables.
- 4) It is not as complex as WAN
- 5) It is easy to Install and Implement.
- 6) It is better secured

[Any five; 1 mark each = 5 Marks]

Demerits of LAN when compared to WAN.

- 1) Area of coverage is restricted. [1 mark]
- c) The features of electronic data processing are:
 - i) High speed of operation
 - ii) Large storage capacity
 - iii) Accuracy
 - iv) Control
 - v) Versatility
 - vi) Flexibility

vii) Large volumes of data can be handled

[Any three; 1/2 mark each= 1½ Marks]

QUESTION 5.

(a) Data collection is the act of gathering data from different originating points to the processing center [2½ marks]

(b) (i) **Interview** is the face-to-face question and answer session between the analyst and the members of staff of the department involved.

Advantages (strengths)

- a) Cheap
- b) Fast
- c) Good for getting other peoples opinion

[Any three, 1/2 mark each= 1½ Marks]

Disadvantages (weaknesses)

- a) Success depends on interviewer's skill
- b) People may claim to perform roles which they do not

[Any two, 1/2 mark each= 1 Mark]

ii) **Questionnaires** are carefully prepared, documented questions which are sent to users to seek for their opinions and views about the present system.

Advantages (strengths)

- a) It has wider coverage
- b) Analyst can use his time saved for other things
- c) The questions are well planned.

[Any three, 1/2 mark each= 1½ Marks]

Disadvantages (weaknesses)

- a) Very expensive
- b) It is time consuming
- c) Some answers may prove useless because the questions have been misunderstood.
- d) Response may be slow in coming and may prove low.

[Any two, 1/2 mark each = 1 Mark]

iii) Measuring and sampling

Advantages (strengths)

- a) Cheap
- b) Unbiased
- c) It is a faster method of collecting facts.

[Any three, ½ mark each = 1½ Marks]

Disadvantages (weaknesses)

- a) It is sometimes tedious
- b) It may be unrepresentative of the overall system

[Any two, ½ mark each 1 Mark]

iv) **Observation** is a means by which the analyst watches and notes how people handle documents and how things are done in a department under different conditions.

Advantages(strengths)

- a) The method is effective when objectivity is ascertained
- b) It is simple
- c) It is economical

[Any three, ½ mark each= 1½ Marks]

Disadvantages(weaknesses)

- a) Observation takes a lot of time
- b) The behaviour of people being observed may be modified to negatively influence the process being observed.
- c) It requires special skill to observe. [Any two, ½ mark each=1 Mark]

QUESTION 6.

- a) Three methods of changeover from the old system to the new system are Direct, Parallel and Pilot.

Direct changeover is the implementation of the new system and the immediate discontinuance of the old system. [½ Mark]

Advantages

- i) The system is relatively simple
 - ii) Implementation period is short
 - iii) It may not be expensive
- [½ mark each= 1½ Marks]

Parallel changeover means operating both the old and the new system simultaneously for some period of time before the old system is dropped. [½ Mark]

Advantages

- i) The outputs from the two systems can be compared and the differences reconciled.
 - ii) The new system will be properly tested before it is finally adopted.
 - iii) The new method fails, management could fall back to the old method.
- [½ mark each = 1½ Marks]

Pilot changeover: In pilot change over, the implementation of the new system is gradual. The system could be implemented, for example, in a particular department within the organization. If it proved workable and reliable there, then it could be introduced in other departments. [½ marks]

Advantages

- i) The method allows for a well-tested system.
- ii) The risk of a system's failure is localized.
- iii) The problems identified in the system can be corrected before further implementation.

[½ mark each= 1½ Marks]

bi) **File conversion** is the process of transferring the information required for a system from the old manual files to the new computer files.

[2½ Marks]

bii) **Factors to be considered** to develop a procedure for file conversion include:

- a) File integrity i.e. to ensure that the data is safe from corruption or loss.
- b) File security i.e. to protect the data from being accessed by unauthorized persons or outright loss.
- c) Conversion time. This is to ensure that conversion is not done during peak normal work load period so as not to cause disruption of business activities.
- d) The cost of conversion should be considered.
- e) The length of time it takes to convert should also be considered.

[Any four, 4 Marks]