1. (a) Ways of opening an application. (Any 1x1=1 mark)
   - Right click on the shortcut ⇒click open.
   - All programs ⇒select the program
   - Double click on the program icon/shortcut.
   - Open a command prompt ⇒type a command. ⇒ Press enter.
   - Use a task manager to open a program.
   - Click on the program icon pinned on the task bar.
   - Use voice recognition to open a program.
   - Click on the Start button ⇒ on the menu, click on a program.
   - Click on start button ⇒ type program name in the search box ⇒ press enter.

   (b) A computer literate person is one who uses/operates a computer to solve a problem. (1 mark)

   (c) Reasons why Information Communication Technology is important.
   (Any 3x1=3 marks)
   - To form a basis for future employment.
   - To facilitate learning of other subjects.
   - To enable sharing of information.
   - To facilitate academic research among students.
   - To lay a foundation for further studies in the field of computing.
   - To speed up business operations and development.
   - To facilitate telecommunication.

2. (a) Ways to protect a computer from electrical damage. (Any 2x1=2 marks)
   - Connect a computer to a surge protector/suppressor/power regulator.
   - Connect a UPS to your computer.
   - Always disconnect your computer from power when it is not in use.
   - Install a lightening arrestor/conductor.
   - Install a circuit breaker.
   - Ensure proper wiring system.
   - Ensure use of insulated cables.
   - Avoid overloading the circuit.

   (b) Measures you would take to prevent loss and/or damage of data in computers. (Any 2x1=2 marks)
   - Backup important files.
   - Install and regularly update antivirus software.
   - Install/setup/put a password.
   - Encrypt data.
   - Apply data masking.
   - Configure firewall.
   - Set parental controls for example user accounts.
   - Write-protect data.

(c) **Reasons why computers should be serviced.** *(Any 1x1=1 mark)*
- To improve speed and general operation/performance of a computer
- To reduce risks of threats like sniffers, spyware, viruses.
- To reduce likelihood of losing important data, files and/or software.
- To prolong computer's life span.
- To enhance/maintain computer's functionality.
- To free up space. *increase efficiency*

3. (a) **Explanation of a shortcut as used in computers.** *(2 marks)*
- It is a quick alternative way of performing a task on a computer.

(b) **Limitations of using the desktop as a sole file storage location/directory.** *(Any 3x1=3 marks)*
- Viruses can easily affect the info... (vulnerable to virus attack)
- May lead a computer to slow down.
- Likelihood of losing files in case of operating system crash.
- The files are not automatically backed up.
- Many files occupy the usable space for important icons (overcrowding space).
- Files are easily exposed to un authorized people.
- Files can accidentally be deleted.

4. (a) **Specialized device that moves the pointer.** *(1 mark)*
- Mouse *, Track Point, Tracker ball.*

(b) **Devices serving as both input and output devices.** *(Any 2x1=2 marks)*
- Digital Camera *Head set.*
- Touch screen
- Smart board
- Fax machine

(c) **Device to capture information in the picture.** *(2 marks)*
- Barcode reader/Barcode scanner.

5. (a) **System utility:** *(Any 2x1=2 marks)*
Examples:
- Disk defragmenter.
- Diagnostic utility.
- Screen saver.
- File viewer.
- Sort utility.
- Merge utility.
- Copy utility/backup
- Cryptographic utility.
- Antivirus etc

(b) **Operating systems:** *(Any 2x1=2 marks)*
Examples:
- MS DOS *iOS*
- Mac OS
- Solaris
- Windows
- Ubuntu
- Android etc

(c) **Programming languages:** *(Any 2x1=2 marks)*
Examples:
- FORTRAN *C#, C+*
- BASIC
- PASCAL
- C
- C++
- Java
- HTML
- PHP
- Machine language
- Assembly language
- PROLOG
- Ada
- Python
- COBOL etc

6. (a) Description of blog as used in internet.   (2 marks)
        (handwritten: Posted on the point)
        - A website where users post information about a topic for discussion.

    (b) Explanation of cloud computing.   (2 marks)
        - It is a practice of hosting, delivering and using of services online.

    (c) Advantages of cloud computing.   (1 mark)
        - Reduced cost of storage
        - Unlimited storage space. *(handwritten: (Vast amount of storage))*
        - Reliability (processing power, storage)
        - Boundaryless computing/ubiquitous computing
        - Access to a variety of resources.
        - Reduction of electronic waste.
        - Enhanced security on data.   (1 mark)

7. (a) LAN in full.
        - Local Area Network

    (b) Explanation: (Any 1x2=2 marks)
        (i) Client-server:
            - It is a network model/structure with one or more central computers/hosts that store data and manage resource being shared by other computers/clients.
            - A network model with a major computer/server/host that controls resources and client computers on a network.

        (ii) Peer-to-Peer: (2 marks)
            - A network model where each computer acts as both a server and client.

8. Emerging technologies and innovations in the area of transport. (Any 5x1=5 marks)
        - Self-driven cars. *(handwritten: — Road Toll control System & Travel card)*
        - Automatic cars. *(handwritten: — Road cameras (CCTV))*
        (handwritten: — Auto pilot)
        - Autonomous cars with increased safety. *(handwritten: — Elevators)*
        - Use of Drones for emergence deliveries. *(handwritten: — Track (bus) Scanners)*
        - GPS for vehicle tracking. *(handwritten: — Radar Control System)*
        - Computerized diagnostic vehicle kit/tool.
        - Computerized traffic control. *(handwritten: escalators, Mobile apps)*
        - Electronic vehicles which are charged.
        - Online reservation and booking for transport tickets.
        - Smart cars with possibility of detecting danger.

9. (a) Database object: (1 mark)
        - Form

    (b) Appropriate field for a primary key.
        - Std_No   (1 mark)

    (c) Appropriate data types:
        (i)   Parents Tel: **Text/short text**   (1 mark)
        (ii)   Matron remarks: **Memo/long text**   (1 mark)
        (iii) Std_No: **Text** *(handwritten: | Short text.)*   (1 mark)

10. (a) **Description of digital divide.** (2 marks)
   - This is a social issue relating to the deferring amount of information (gap) between those who have access to information communication technologies and those who do not.

   (b) **Indicators of digital divide.** (Any 3x1=3 marks)
   - Level of ICT usage.
   - Percentage of internet users
   - Quality of ICT equipment used (computers and cell phones)
   - Amount of Information accessed.
   - Type of information accessed.

11. (a) **Difference between high level programming languages and low level programming languages.** (Any 1x2=2 marks)
   - High level languages are human oriented while low level languages are hardware oriented.
   - High level languages require more memory while low level languages occupy less memory.
   - Low level languages are faster to execute while high level languages are slow in execution.

   (b) **Advantages of high-level programming languages.** (Any 3x1=3 marks)
   - They relate to natural languages making it easily understood/interpreted by humans.
   - It is quick to write/develop programs because some codes are automatically generated.
   - Machine independent.
   - Faster for a programmer to identify errors and fix them in a code.

12. (a) **Advantages of flash disks.** (Any 3x1=3 marks)
   - Provide quick access to data.
   - They are Plug and Play (PnP) – automatic driver installation.
   - Content can easily be edited.
   - Information can be accessed in most computers (compatibility).
   - More Portable.
   - Store relatively large amount of data.
   - Cheap in terms of unit per storage.

   (b) **Ways of creating more storage space on a flash disk.** (Any 2x1=2 marks)
   - Delete/remove un wanted files.
   - Move files to another storage medium.
   - Defragment a flash disk.
   - Compress files.
   - Formatting a flash disk

13. **statement True/False:** (each 1 mark) Total 5 marks
   (a) True
   (b) False
   (c) False
   (d) True
   (e) False

14. (a) **Explanation of Internet Service Provider (ISP).** (2 marks)
- Is a company that provides individuals and other companies access to internet and other related services.

(b) **Examples of web browsers.** ~ UC browser (any 3x1=3 marks)
- Internet explorer Microsoft edge
- Google chrome Konqueror
- Opera(open ms) Phoenix Eudora
- Mozilla Firefox mosaic)
- Safari
- Netscape navigator
- Chromium
- Arora etc

15. **Wireless communication used to connect;**

(a) **Within the same room:** (Any 2x1=2 marks)
- Infrared/irDA
- Radio waves

(b) **Between users in the same city.** (Any 3x1=3 marks)
- Micro wave
- Radio waves
- ~~Satellite~~

16. (a) **Hacking as applied in ICT?** (1 mark)
- Un authorized access to information in a computer system.

(b) **Explanation of internet crimes:**
(i) Phishing. (2 marks)
Sending of fake emails intending to get personal details.
(ii) Spamming. (2 marks)
Sending of unsolicited or junk emails.

17. (a) **Formula to determine the average score for peter.** (Any 1x2=2 marks)
=AVERAGE(C2:E2) =Average(C2,D2,E2) =SUM(C2:E2)/3
=(C2+D2+E2)/3 =SUM(C2:E2)/3
=(SUM(C2:E2))/3 =Sum(C2,D2,E2)/3

(b) **Procedure to obtain average scores for other students using a formula.** Press Ctrl + Enter
- Highlight all the cells, type the formula and the (2 marks)
- Copy and paste the formular to the rest of the cells.
- Click the handle on F2 and drag it down to cell F7.
- Double click the handle on F2 and autofill.

(c) **Function to use to position the students.** (1 mark)
- Rank

18. (a) **The Computer which is faster.** (1 mark)
- Computer A
- Computer with clock rate of 1.70GHZ

(b) **Reasons to support answer in (a).** (Any 2x1=2 marks)
(i) It has a faster clock rate and this also determines the processor speed.
(ii) It has a high Random-Access Memory which also contributes to the computer's processor speed.

(c) Computer B because it has higher Hard disk capacity than computer A.
(Computer mentioned 1 mark)
(Reason 1 mark)
Total 2 marks

19. (a) **Definition of software package/suite.** *(Any 1x2=2 marks)*
  - A group/collection of programs sold as a single unit.
  - Two or more software programs bundled and sold together.

(b) (i) **Examples of software packages/suite.** *(Any 1x1=1 mark)*
  - MS office suite   MS works
  - Adobe suite
  - Open office.org suite

  - Kingsoft suite
  - WPS suite
  - Lotus suite

  (ii) **components of your example in (b)(i).** *(Any 2x1=2 marks)*
  MS office:
  - MS office word
  - MS PowerPoint
  - MS Excel
  - MS publisher

  - MS Access
  - Microsoft outlook
  - MS InfoPath
  - Groove

  Lotus suite:
  - Lotus word pro
  - Lotus 1,2,3
  - Lotus freelance
  - Lotus approach

  Adobe suite:
  - Adobe Photoshop
  - Adobe Page maker
  - Adobe Illustrator
  - Adobe InDesign

  - Adobe Aftereffect.
  - Adobe Premiere.
  - Adobe Audition.

20. (a) **Network communication devices.** *(Any 2x1=2 marks)*
  - NIC   Phone
  - MoDem   Computer.
  - Hub   fax machine
  - Switch   Radio call

  - Bridge
  - Router
  - Gateway
  - Repeater

(b) **Advantages of computer networks.** *(Any 3x1=3 marks)*
  - Facilitate faster access to information.
  - Facilitate faster sharing of computer resources.
  - Minimizes cost of purchasing hardware for every computer.
  - Central management of computer resources.
  - Enhanced information security.
  - Reduced costs of study through E-learning.
  - Faster communication.

End

13, 14, 15

12, 17, 18