



ict

INFORMATION AND
COMMUNICATION
TECHNOLOGY

Grade

10

General Certificate of Examination (Ordinary Level)
Information & Communication Technology
Student Activity Book

Information & Communication Technology Unit
Provincial Department of Education
North Central Province

General Certificate of Examination (Ordinary Level)

Information and Communication Technology

Student Activity Book

Grade 10

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Information & Communication Unit

Provincial Department of Education

North Central Province

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Message from the Provincial Director of Education



Information and Communication Technology is another milestone in the educational process that paves the way for the universe to be seen as chaotic. It has become the accepted scholarly opinion that living in isolation as a nation is not a civilized human behavior. Therefore, it is the aspiration of the superior human being that the human race around the world should come together, join hands and overcome future challenges and conquer the world. In order to overcome these future challenges, the backing of Information and Communication Technology is immense. It is in this context that the basic foundations of Cyrillic children are laid to move forward with the rest of the world in the face of globalization.

I appreciate the hard work and dedication of teachers as well as other educators in adapting children's knowledge, skills and attitudes to the new world through the Information and Communication Technology curriculum that was added to the school curriculum in 2007, as it is a three-pronged process.

I always commend those in the field of education who strive to enhance the knowledge and skills of the subject, especially among the children of the North Central Province. To prove these points, I would like to extend my congratulations to all those who have pledged their allegiance to the GCE (O / L) Examination Activities Handbook on Information and Communication Technology. At the same time, I hope that this task will be implemented effectively and that there will be a very good and excellent change in the GCE (O / L) examination in the year 2020.

Mrs. E.M.N.W. Ekanayake,
Provincial Director of Education,
Provincial Department of Education,
North Central Province.

Message from the Subject Director of Information and Communication Technology



With the rapid advancement and development of other fields that focus on information technology and communication, making many significant technological changes in the present world, many future challenges have been created for the student generation to face. In such an environment, in a society centred on new technological knowledge and intelligence, it is the responsibility of all of us involved in ICT to empower students to face the challenges they face. GCE Advanced Level is the first step in providing the child with the opportunity to adapt to higher education and the world of work, in a short period of time, by organizing a learning experience that is conducive to student learning, and to be able to implement it in a short period of time, even in an emergency situation in a country. The main objective of creating this activity manual is to provide a guide to successfully pass the GCE (O / L) examination.

The North Central Provincial Official Website has facilitated all teachers and students from all over the country to study online through the provincial past term question papers, answer sheets and Nena Sayura Hospitality Lesson series. We have already been able to enhance the results of all subjects in the province by successfully obtaining provincial term examination marks analysis and reports from the provincial website at provincial, zonal, divisional and school levels and organizing remedial teaching activities.

This activity manual designed for Grade 10 students, which includes GCE (O / L) examination target questions, is well utilized under the guidance of the teacher in charge of the subject to take the subject results to the highest level in the North Central Province. I expect students to make the effort to learn the subject.

Mr J.M.P.M.. Jayasundera,

Assistant Director of Education,

Information and Communication Technology Unit,

Provincial Department of Education,

North Central Province.

Preface

In today's society, the teaching and learning process is being modernized with new indicators of human experience, technological change, psychological research and education to achieve the educational goals that have taken on a complex form with economic, social, cultural and technological development. The Information and Communication Technology Curriculum aims to develop a person who can overcome future challenges by imparting practical skills in the learning-teaching process.

- To provide basic foundation for basic computer literacy and extensive study of the subject of Communication Technology;
- Provide an understanding of the various applications of ICT and its implications.
- Providing knowledge on concepts and principles related to information and communication technology
- Provide skills to provide information and communication technology based solutions to real world problems
- Awareness of the benefits of using ICT and the problems that arise from it;

The purpose of this book is to implement the ICT curriculum in the school and to help the child to successfully face the GCE (O / L) examination which is a barrier to giving him the opportunity to adapt to higher education and the work world.

The Marking scheme of This Activity book which is expected to be given to each student appearing for the GCE (O / L) examination in North Central Province can be downloaded from the website of the Provincial Department of Education (www.edncp.lk).

Take advantage of this and We wish to be able to obtain an excellent pass in Information and Communication Technology from the GCE (O / L) Examination!!!

Information and Communication Technology Unit-

Provincial Department of Education,

North Central Province.

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Unit 01

**Information and Communication
Technology**

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1.

- 1) Compare data vs. information using 2 features.

.....

- 2) Identify given labels which is **a). to e).** and write whether is it data or information.

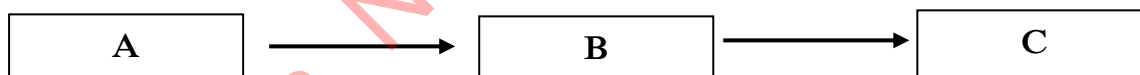
- a) Salary of a employee
 b) A weight graph of a child
 c) Remaining balance of total salary
 d) Daily total rainfall value
 e) Weight of a child

- 3) Match the correct columns in the given table for a quality information.

A	B
1. The application submitted by Mr.Perera was rejected as it did not mention the professional qualification in the application	Timeliness
2. Mr. Sarath search several websites that contain that information to write a dissertation on the evolution of living things.	Completeness
3. People always like to watch daily news	Accuracy

2.

- 1) Computer is a system. Name A,B, and C



- 2) Different organizations use information systems at different times and occasions to make daily activities easier, more accurate and efficient. Write 3 examples.

- 1.....
 2.....
 3.....

- 3) Nowadays QR code is commonly used to collect information. Write and order the step number (1,2,3....) in given blank.

- ★ Take a photo
 ★ Access the Website
 ★ Point the mobile device to the QR code
 ★ Decoding

- 4) Write correct code name in given blank. (QR Code / ISBN Code / Bar Code)



.....

- 5) A students doing online learning has to log in to the relevant educational website and enter the username and password given to his/her mobile phone immediately to the system in order to obtain the required tutorials and activities. The system checks its accuracy and displays the required definitions and activity notes on the screen, downloads them to their computer and prints them as appropriate. Identify input, process, store and output of a given case study and write given blank.

Input -

Process-

Output -

Store -

3.

- 1) Explain E-Government .

.....

- 2) Name two websites that provide information and communication technology services at the state level in sri lanka.

i) ii).....

- 3) Write down three advantages of using information and communication technology to provide government services.

★
 ★
 ★

- 4) Below are some of the e-government services. Write down the blank which e-governments services are. (G2C / G2G / G2E / G2B).
- a) Renewal of vehicle license
 - b) Sri Lanka custom information
 - c) Information on business organization
 - d) Government laws
 - e) Forms
 - f) Business registration

4.



- 1) Illustrate 4 areas in which ICT is used in the field of education.
 - a)
 - b)
 - c)
 - d)
- 2) Explain in 3 ways how information and communication technology can be used to facilitate learning and teaching in the classroom.
 - a)
 - b)
 - c)
- 3) Explain 3 advantages of using the internet for the teaching-learning process.
 - a)
 - b)
 - c)
- 4) Name 2 educational websites that can be used for further education to facilitate education.
 - i)
 - ii)
- 5) Give 2 points on how the teacher can be used as a support to make the teaching process a success in the classroom.
 - a)
 - b)
- 6) Name 4 services available to the registered learning community through a learning managements system.
 - i.
 - ii.
 - iii)
 - iv)





- 7) Specify the essential facilities and requirements required to connect to a learning management system.
- Facility
 - requirement
- 8) Indicate the 2 facilities available to students and school management using LMS.
- students -
-
 -
- school management -
-
 -
- 9) Write down 2 features of distance education.
-
 -
- 10) Write the barriers and difficulties you see in the school system in Sri Lanka to make the learning and teaching process in the classroom more successful using ICT.
-
 -

5.

- 1) Modern medical equipment is used to diagnose and diagnose patients for various medical tests. In the box below, there are several names of such devices. Write correct devices name on given blank.

Blood Sugar Testing machine / MRI Machine / ECG Machine /
CAT Machine / EEG Machine / Cardiac Screening Machine

<p>I</p>  <p>.....</p>	<p>II</p>  <p>.....</p>
--	--

<p>III</p>  <p>.....</p>	<p>IV</p>  <p>.....</p>
<p>V</p>  <p>.....</p>	<p>VI</p>  <p>.....</p>

2) What is a remote clinical care? Explain briefly.

.....

.....

.....

.....

3) Write 2 advantages of remote clinical care?

.....

.....

6.

1) List 3 areas in which information and communication technology is used in agriculture.

- i.
- ii.
- iii.

2) Write 2 instances where ICT is used for farming?

- i.
- ii.

3) Name 4 modern machines that can be used for farming.

- i. iii.....
- ii. iv.....

4) Write 2 ICT applications that can be used for managing farmhouse.

- i.
- ii.

5) write 2 ICT applications that can be used in fish industry.

- i.
- ii.

7.

1) Write 3 ICT applications that can be used in Manufacturing Industry and business.

- i.
- ii.
- iii.

2) Write 2 advantages and 1 disadvantage of robots in industry.

advantage -

- i. ii.....

disadvantage -

- i.

3) Name 3 devices that can be used in Video conference.

- i. iii.....
- ii.

4) Write 2 advantages and a disadvantage of using a video conferencing system to facilitate business.

Advantage -

- i. ii.....

Disadvantage-

- i.

5) List 2 ICT applications where ICT is used to facilitate banking(e-banking).

- i.
- ii.

6) Name 2 advantages and a disadvantage of online shopping.

advantage -

- i.
- ii.

disadvantage –

- i.

8.

1) Write 4 ICT applications in entertainment.

- i. iii
- ii. iv.....

2) Write 3 demerits of ICT.

- i.
- ii.
- iii.

9.

1) The following are the major hardware technology devices used in computer design from the 1940s to the present (first generation to 5th generation). Identify the device and write its name and related generation in the given blank.

Device				
Generation				
Device name				

2) Select and write correct word for given blank using given list.

(Adding Machine / Napier's Bones / Ada Augusta Lovelace / ENIAC /
Abacus / Joseph Jacquard / Tabulating Machine / Charles Babbage / Blaise
Pascal / IBM / Analytical Engine / Microsoft)

- i. device can be referred to as a device used in the pre-mechanical era.
- ii. device is introduced by John Napier.
- iii. The first mechanical calculator was the, which was developed by who was the French mathematician.
- iv. Punch card was introduced by
- v. was the father of computer.
- vi. is a device designed by Charles Babbage.
- vii.is the first computer programmer .
- viii. is the first digital computer.

- 3) Write down which generational computer are presented that given feature.
- a) High level programming languages for coding -
 - b) General user interface (GUI) of operating system –
 - c) used punch card for input data-
 - d) Machine language is used to code
 - e) Computers of this era produce a lot of heat and consume a lot of electricity, which is very large in size.-
 - f) use keyboard and mouse for first time -
 - g) use internet and multimedia application
 - h) use Optical Disk –

Multiple Choice Question

- Answer all questions.

1. Is the following statement regarding **the information** false?
 - 1) Analysis of information leads to different conclusion.
 - 2) Data is processed by processing information.
 - 3) Information is processed by processing data.
 - 4) The Information is formal.
2. Which of the following cannot be classified as information when compared to data?
 - 1) Maximum marks obtained by the students for the subject of Science.
 - 2) Height of a student.
 - 3) Weight chart of an infant.
 - 4) Student progress records.
3. The most accurate answer is about a system,
 - 1) Input information, input data and process.
 - 2) Collect data, process and convert into information.
 - 3) Input data, process and output information.
 - 4) Input data, output information and classification.
4. Select incorrect statement regarding e-government,
Government use ICT to
 - 1) Facilitate payment of utility bills.
 - 2) Give Sri Lanka custom information.
 - 3) Give circulars.
 - 4) Renewal of Vehicle Licenses for another government citizen.
5. E-government services websites in sri lanka is,
 - 1) <http://www.government.com>
 - 2) <http://www.gov.uk>
 - 3) <http://www.gov.lk>
 - 4) <http://www.e.govern.lk>

6. Consider following ICT applications in education field.
- A) Presentation.
 - B) Desktop publishing of magazines, letter and document.
 - C) Creation of images and video.
 - D) Ability to manage and update school information.
- Select only relevant expression is/are for the teaching and learning in the classroom.
- 1) A and B only. 2) B and D only. 3) A, B and C only. 4) D only.
7. Is not a characteristic of distance education,
- 1) Ability to download assignment and questionnaires.
 - 2) Ability to connect with an online teacher.
 - 3) No scheduled time table.
 - 4) The parents can monitor the progress of their children using email.
8. Consider the following statements regarding the functionality of quick response codes that can be found in most products on the market today.
- A) Taking a photo using Smart Phone
 - B) Connecting to website.
 - C) Decoding the QR .
- Select correct answer for A,B and C,
- 1) Data input, process, output information.
 - 2) Output information, process, input data.
 - 3) Input data, output information, process.
 - 4) Process, output information, input data.
9. Consider following statement.
- Government information service.
 - Constitution.
 - Renewal of vehicle License
- The above services are provided by the government of Sri Lanka,
- 1) Other government (G2G) 2) Business (G2B)
 - 3) Citizen (G2C) 4) Employee (G2E)
10. Incorrect statement of Learning Management System,
- 1) Supervision of activities and publishing of results.
 - 2) The ability to maintain automatic bellring system.
 - 3) The ability to upload the assignments completed at home.
 - 4) No required internet connection.

11. Write correct answer for labels(❶ , ❷ , ❸ , ❹) using health sector,

Label	function	Device
❶	This machine can create digitalized images of internal organs of the body by using strong magnetic fields and radio waves.	CAT
❷	This machine is used to monitor the heart beat.	EEG
❸	This machine is used to record the activities of the brain	MRI
❹	Using this machine three dimensional images of different parts of the body can be made.	ECG

1) CAT , MRI , EEG , ECG

2) MRI , ECG , EEG , CAT

3) ECG , EEG , CAT , MRI

4) MRI , CAT , EEG , ECG

12. Consider following statements.

- A) Treatment of a person in need of emergency treatment on an airplane by a hospital trained health officer with advice of a specialist in the hospital.
- B) Conducting training of hospital staff using communication resources through foreign resource contributors.
- C) After a patient is admitted to a nearby hospital, he/she is operated on by a specialist.

Select correct statement about remote clinical care,

- 1) A and C only.
- 2) C only.
- 3) A and B only.
- 4) B and C only.

13. Which statement is a false statements regarding the more effective use of information and communication technology in agriculture activity,

- 1) Data obtained from meteorological instruments can determine the optimal time to harvest.
- 2) The use of automated water supply systems can reduce unnecessary water consumption.
- 3) CCTV camera system can be used for farm protection.
- 4) Weeds plants are removed by workers in a large field.

14. Disadvantages of robots in industry,

- 1) Efficiency
- 2) Accuracy
- 3) 24 hour services
- 4) unemployment .

15. Incorrect statements regarding ict application in business.,

- 1) Use video conferencing to conduct meeting.
- 2) Payments bill over mobile phones.
- 3) The administration of employee activities has become an easy task due to finger print scanner.
- 4) Sri Lankan citizens can easily access online shopping only in Sri Lanka.

16. Incorrect statements about entertainment,

- 1) Refer e-book over internet.
- 2) Do video games.
- 3) Editing photograph.
- 4) Accessing social networks for most of the day.

17. Disadvantages of e-commerce,




- 1) Ability to see things and order at one's convenient place.
- 2) 24 hours service.
- 3) Ability to pay using the electronic payment methods.
- 4) Quality of ordered goods.

18. Not a demerit of ICT,

- 1) Addiction.
- 2) Building unsuitable friendships through social media.
- 3) Watch digital TV.
- 4) Publishing of distorted photographs

19. Match 1 column with 2 column in the table. Select correct answer. ,

- 1) A , C , B
- 2) A , B , C
- 3) B , C , A
- 4) C , A , B

1 column	2 column
I. 	A. Marked on items purchased.
II. 	B. Listed in books purchased at the library or in store.
III. 	C. Scan using mobile phones and access to the relevant website.

20. Requirements for video conferencing,

- A. computer
- B. internet connection
- C. communication software

- 1) A and B only.
- 2) B only
- 3) A and C only
- 4) all

• Identify correct machines and answer 21 to 25 using given photograph.

21.



- 1) EEG
- 2) MRI
- 3) Cardiac Screening
- 4) X Ray

22.



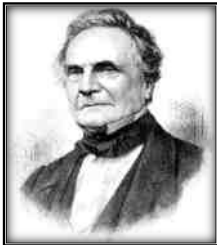
- 1) Blood Sugar Testing Machine -
- 2) Blood Pressure Testing Machine -
- 3) X Ray
- 4) Ultra Sound Scanning

23.







- 1) MRI
- 2) Cardiac Screening
- 3) X Ray
- 4) EEG

24. Identify this person.



- 1) Blaise Pascal
- 2) John Von Newman
- 3) Charles Babbage
- 4) Joseph Jacquard

25. Select correct answers for A ,B ,C , D,

A	B	C	D
			

- 1) **A** – Transistor **B** – IC **C** – Microprocessor **D** – Microprocessor
- 2) **A** – IC **B** –Transistor **C** – Microprocessor **D** – Vacuum Tubes
- 3) **A** – Transistor **B** – Microprocessor **C** –Vacuum Tubes **D** – IC
- 4) **A** – IC **B** –Transistor **C** –Vacuum Tubes **D**– Microprocessor

26. Incorrect statement about computer generation,

- 1) The adding machine is considered to be the world's first machine that performs mechanical mathematical operations.
- 2) Marie Curi is a first programmer.
- 3) ENIAC is a first electronic digital computer.
- 4) Napier's Bones is a manually-operated calculating device for the calculation of product and quotients of numbers.

27. Replacing Vacuum Tubes with Transistor, later transistor replaced the Micro processor increasedof computer. correct answer is,
1) size 2) efficiency 3) electric consumption 4) device
28. The use of keyboards and mouse for data connection began,
1) first generation 2) Third generation
3) fourth generation 4) second generation
29. Study computer evolution over several generations. select correct generation of computers that have the following characteristic.
- Graphical user interface for OS.
 - small computers in size
 - Speed computer networks.
- 1) first generation 2) Second generation
3) Third generation 4) fourth generation
30. Used for processing and outputting data input on first generation computers,
1) Floppy Disk 2) punch Card
3) Vacuum Tubes 4) wheels

Unit 02

Fundamental of a Computer System

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1. Name the unique features of a computer.

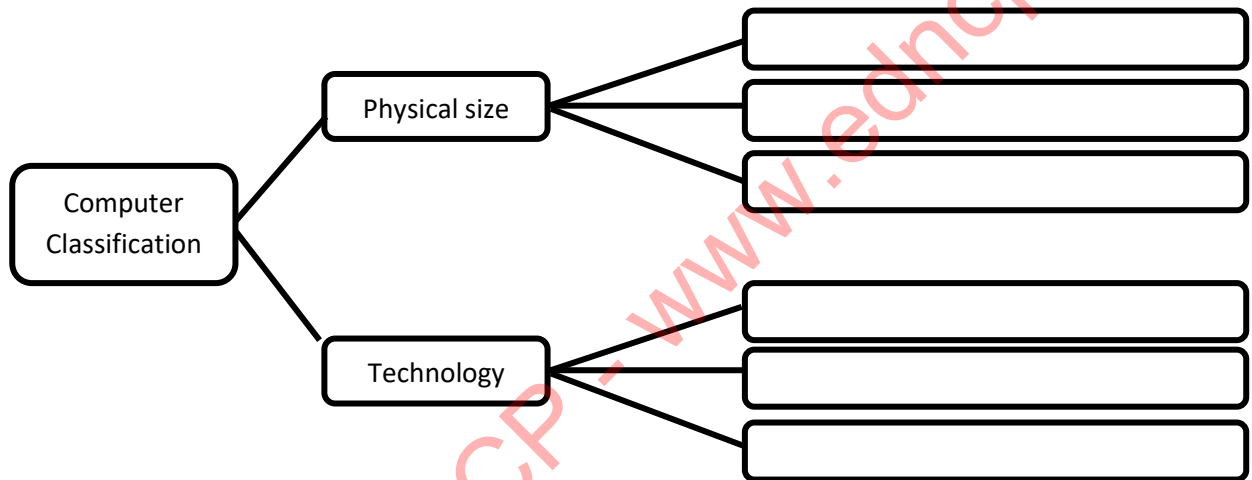
.....

.....

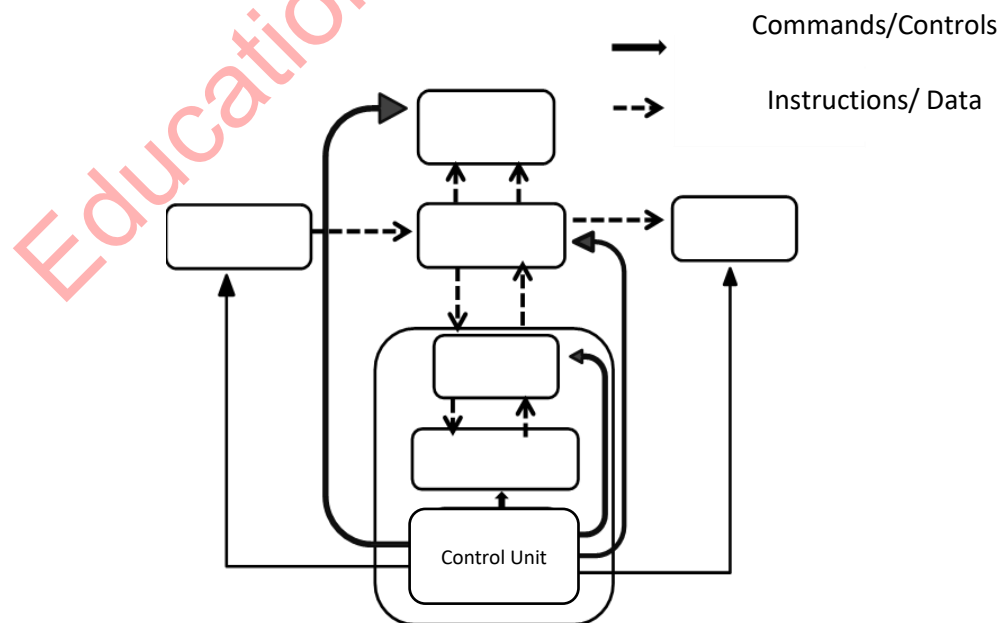
.....

.....

2. . Complete the following flowchart by using computer classification.



3. Complete the block diagram of computer architecture.

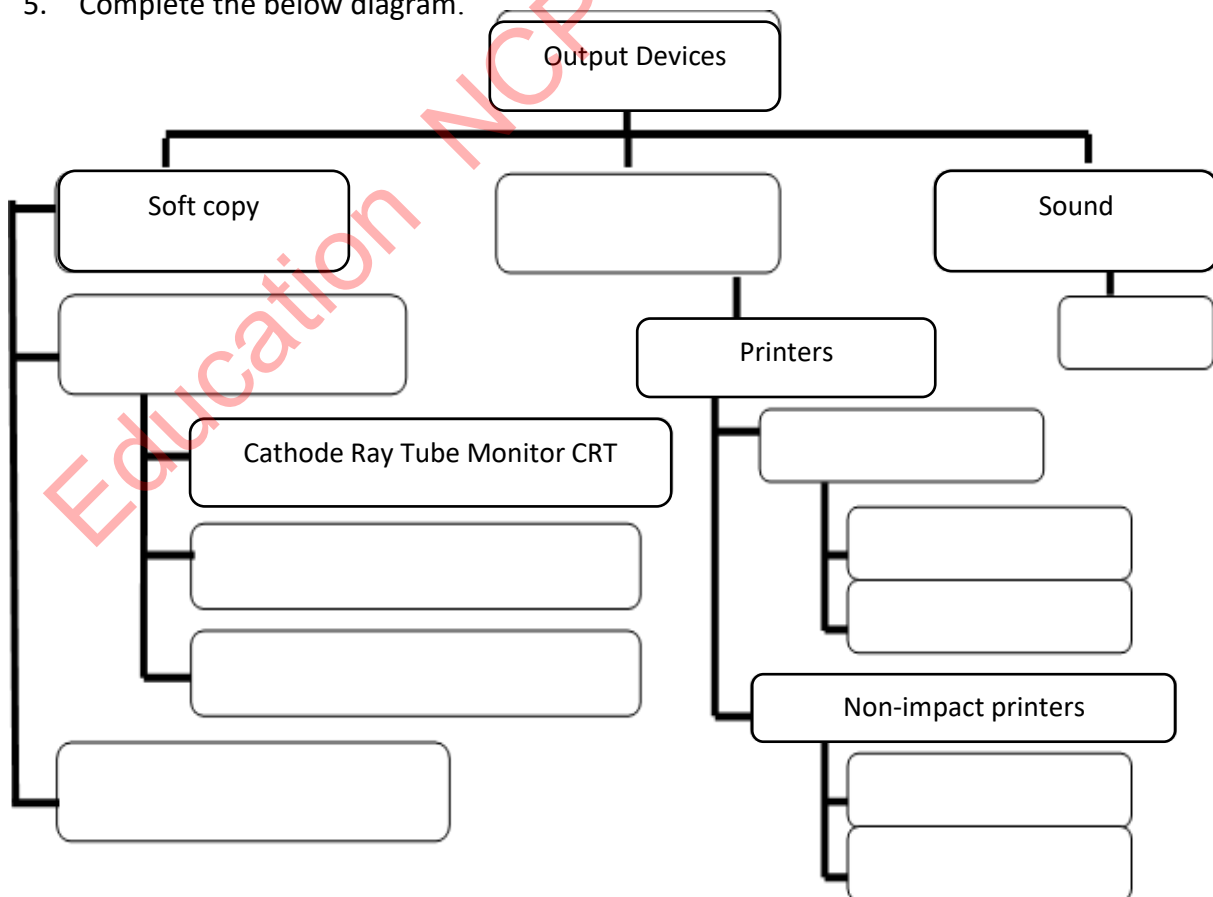


4. Complete the following table using the given list.

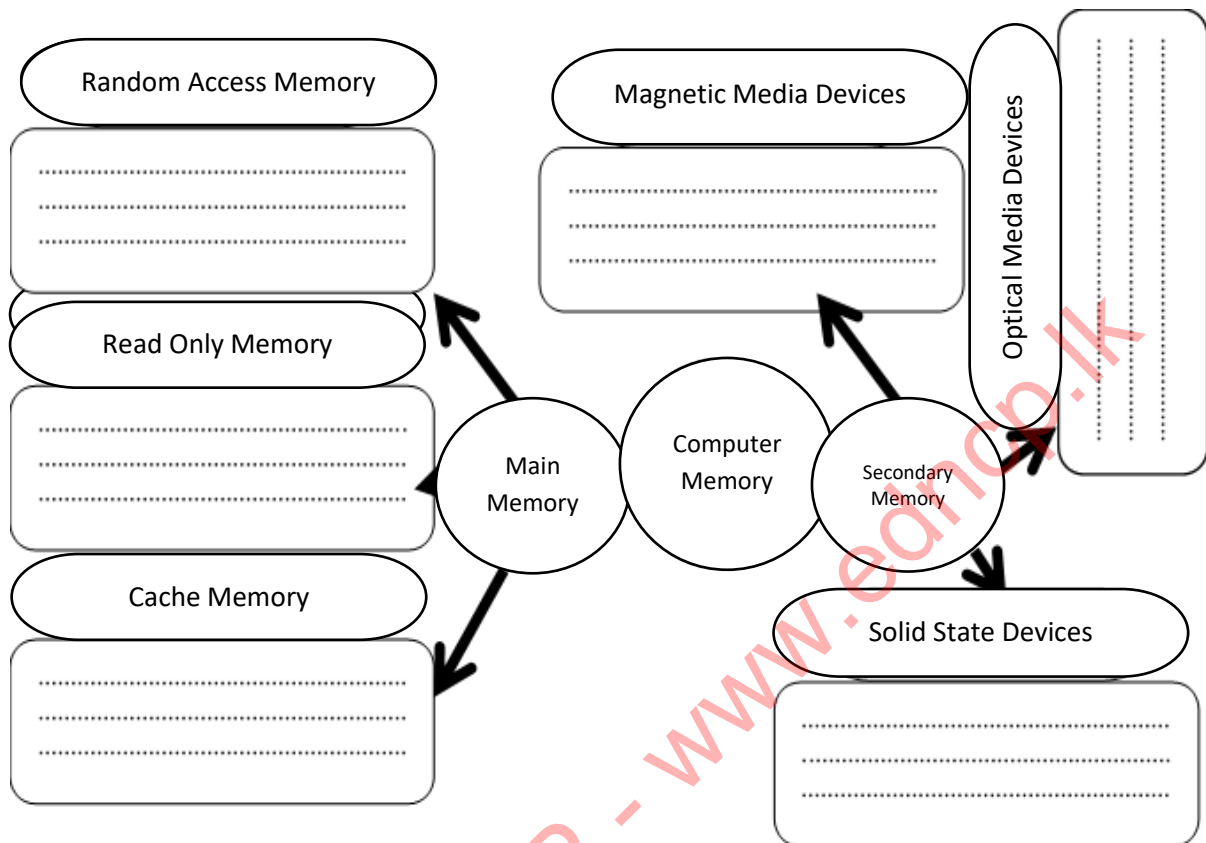
Key board/ Mouse/ Touch pad/ Monitor/ Touch screen/ Joy stick/ Multimedia Projector/ Light pen/ printer/ Digital camera/ Web camera / CCTV/ Flatbed scanner/ Bar code reader/ Laser printer/ Magnetic Ink Character Reader / Memory card/ Optical Character Recognition / Optical Mark Recognition / Microphone/ Automated teller machine

Pointing Devices	Image and video input devices	Scanners

5. Complete the below diagram.



6. Complete the note



7. The main component of a computer system is the Central Processing Unit. Name three main parts of it consist and write down their functions.

-
.....
.....
-
.....
.....
-
.....
.....

8. The interface that connects the computers and other devices to each other is called ports. Complete the table.

Ports	Name of the port	Devices that can be connect
		Purple - Green -
		
		
		
		Blue - Green - Pink -
		
		
		

9. Amal was walking on the road, He saw an accident. He ran to the spot and saw that the victim was in a critical condition. He immediately called 119 and informed it. The police officer who came there with the walkie –Talkie and informed the accident. Amal returned home after the patient was admitted to the hospital, He was able to see the incident and the details of the accident on the television

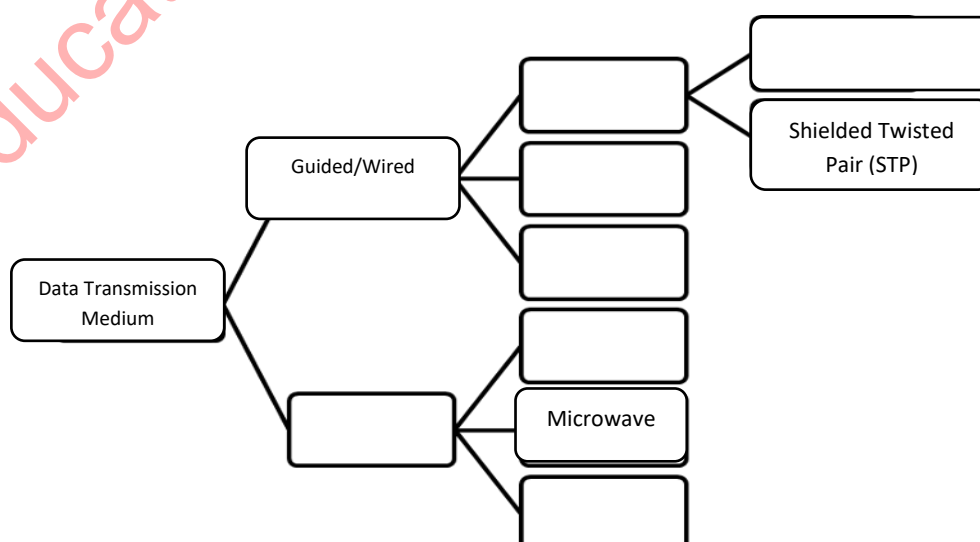
1) Name the data transmission methods and write a short description about them giving example related to the above incident

-
-
-


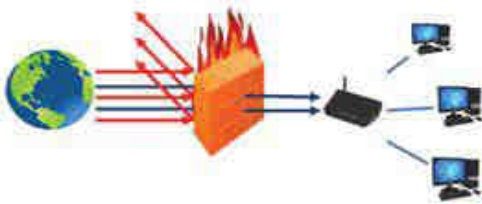




2) In the above case set the basic elements required for data communication related to the incoming phone call.

- Source -
- Medium -
- Receiver -

10. Complete the following diagram.



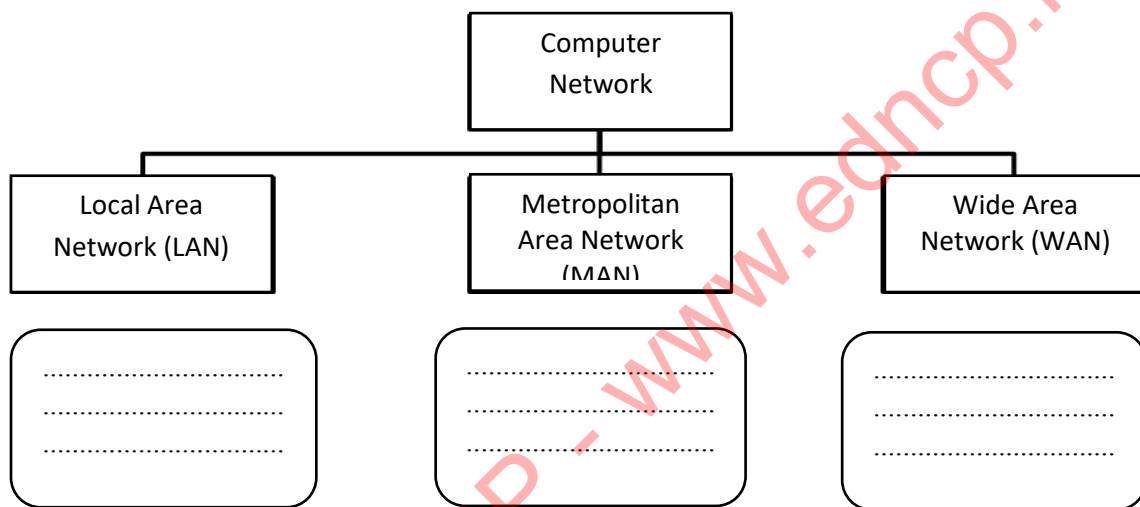
11. Complete the table below with the methods/ticks used to connect computer networks

උපක්‍රමය		Description
Modem		..... ..... ..... .....
.....		This device will be installed as a security barrier between the internet and the computer network and can be used as a software as well as hardware
Network interface Card		..... ..... ..... .....
Switch or Hub		..... ..... ..... .....
Wi-Fi (Access Point)		..... ..... ..... .....
.....		This is a device used to connect two or more computer networks

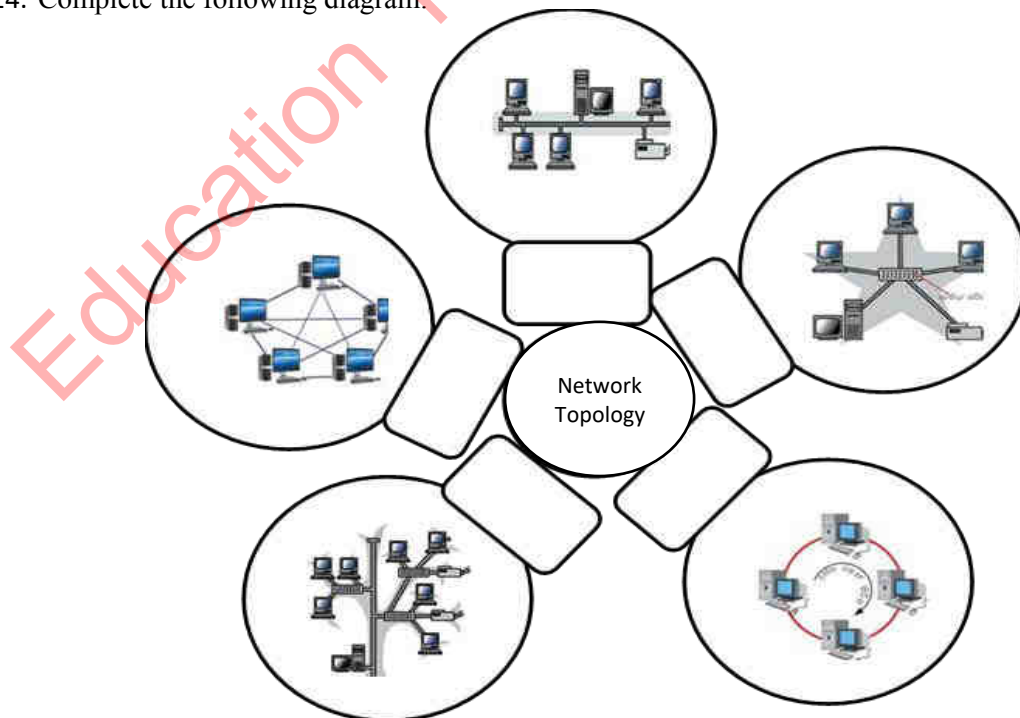
12. What are the differences between switch and hub?

Switch	Hub

13. Complete the chart below.



14. Complete the following diagram.

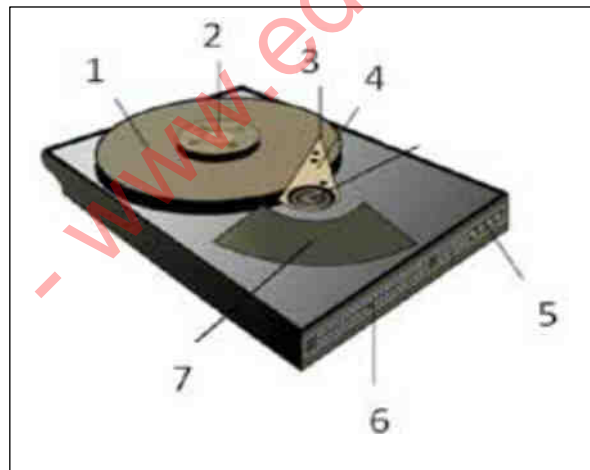


15. Complete the following table.

Advantages of networking	Disadvantages of networking

16. Name the parts of the hard disk.

01.....
02.....
03.....
04.....
05.....
06.....
07.....



17. What are the differences between screen technology with cathode ray tube and light emitting diode technology?

screen technology with cathode ray tube	light emitting diode

18. In the figure below , write the names of the network connecting devices corresponding to the given space




19. Fill in the diagram below.

Data transmission Media	Name and features

Data transmission Media	Name and features
	
	
	
	
	

20. Write and briefly describe the type of computers classified according to the following technology.

	
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Multiple Choice Questions

1. Nimal went to the bank for money transaction during the Kovid Pandemic. When Nimal entered the bank the security guard check the temperature and said the value, with this accident, Nimal remembered the lesson he taught in grade 10 on computer classification. The Thermometer gauge can be classified as a
 - 1) Analog computers
 - 2) Mainframe computers
 - 3) Digital computers
 - 4) Mini Computers
2. None of the following types of keys are found on the keyboard.
 - 1) Short cut key
 - 2 Gaming key
 - 3) Sound control key
 - 4) Function key
3. Select the answer that contains only input, output and memory devices respectively from the following devices.
 - 1) Monitor, Keyboard, Hard disk
 - 2) Hard disk, Monitor, Mouse
 - 3) Mouse, Hard disk, Printer
 - 4) Microphone, Multimedia projector, Digital Versatile Disk

4. The unit that measure the speed of modern computers
- 1) MBps 2) TB 3) GHz 4) RPM
5. The only none permanent memory device is included from the following memory devices
- 1) Read only memory, Cache memory, Hard Disk, Random Access Memory
2) Random Access Memory, Hard Disk, Cache Memory, Secondary Memory
3) Read Only Memory, Hard Disk, Floppy Disk, Blue ray Disk
4) Random Access Memory, Floppy Disk, Cache Memory, Secondary Memory
6. The teacher who was teaching the lesson asks Dilum and Kasun to connect the projector. When they went to collect projector and cables they were given only projector, power supply cable and HDMI Cable. The problem was that they didn't get the audio device cable they used to get
- 1) HDMI cable is longer than the audio cable.
2 Connect HDMI cable to HDMI port.
3) It is easy to connect HDMI Cable to HDMI Port.
4) Due to the output of sound in addition to images through HDMI.
7. The correct expression related to the router,
- 1) Used to connect computers.
2) Exchange data among computers.
3) Determine optimal router connecting and transmitting information two or more than two computer networks.
4) RJ 45 is used to connect connectors
8. Which of the following statement is the correct statement?
- 1) Internet is an example for Metropolitan Area Network.
2) A metropolitan Area Network is a computer network that is installed in a room in a building or by connecting several rooms
3) A local Area network is a combination of Wide Area Networks
4) A local Area network is network which is connecting a room in a building or Several rooms in a building.
9. Correct saying for tree topology
- 1) Tree topology is created by adding bus and mesh topologies
2) Tree topology is created by adding star topology and ring topology.
3) Tree topology is created by adding star topology and bus topology
4) Tree topology is created by adding two star topologies

10. With the close of school due to the panic situation teachers took steps to teach in online. Computer networks were important for this. It is **not** an advantage for computer networking

- 1) Ability to share resources.
- 2) Ability to exchange data and information between computers.
- 3) Email facilities.
- 4) Require knowledge and training to use.

Essay Type Questions

1.
 - a. What are ways in which computer networks can be divided according to geographical area?
 - b. Write an example how computers can be classified
 - c. What are the disadvantages of computer networking?
2. Complete the table below with the computer hardware.

Type	Example
Pointing Devices	
Scanner	
Image and Video input devices	
Printers	
Soft copy	
Sounds	
For both Input and Output	
Memory Devices	

(Touch Screen, CCTV, Laser Printer, ATM Machine, Multimedia Projector, Hard Disk, Speaker, Flatbed scanner)

(M $\frac{1}{2}$ X 8=3)

3. Complete the following table using computer memory devices.

Type	Example
Secondary Memory	
Optical Media	
Primary Memory	
Volatile Memory	
Non- volatile Memory	
Magnetic Media	

(Hard Disk, Cache Memory, Random Access Memory, Digital Versatile Disk)

(M $\frac{1}{2}$ X 6=3)

4. Complete the following table using appropriate words.

The person who requests for data and information over the internet or local network is referred as a, Data and information provider is referred as a Computer network can be classified as a, and Metropolitan Area Network depending on the of the site and the need of the user is the design and networking of a computer connection within a network.

(Location, Wide Area Network, Client, Topology, Server, Local Area Network)

(M $\frac{1}{2}$ X 6=3)

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Chapter 03

Data Representation Methods in the Computer system

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1. Select and write the appropriate word /words for the A - F labels in the following paragraph from the given list .

TheA..... was introduced by the Chinese as the first mathematical device around 3000 BC. Before that, people have used theB.....for various mathematical tasks. From Among them ,onlyC.....can be understood by a computer. The 8-digit number system is called asD....., and theE..... number system is used the letters A - F , in addition to numbers.

List (Hexadecimal/ Abacus / Binary Numbers /Number system/ Octal)

2. Name the number systems used to represent data in the computer.

.....

.....

.....

3. Complete the table below using the numbers and alphabetical characters used in the number system.

Number System	Base Value	Number and Alphabetical character used

- 4.

- 1) Convert the following decimal numbers into binary numbers.

- i) 23 -
- ii) 40 -
- iii) 59 -
- iv) 78 -
- v) 105 -

- 2) Convert the following binary numbers into decimal numbers.

- i) 1101_2 -
- ii) 1100101_2 -
- iii) 10001_2 -
- iv) 10111_2 -
- v) 101101_2 -

5. Fill the blanks.

Decimal Number	Binary Number	Octal Number	Hexadecimal Number
26
.....	110011 ₂	.....	.....
.....	1F ₁₆
.....	742 ₈	.....
74

6. Convert binary number of 1110011110₂ into octal and hexadecimal. Write down your steps.

.....

.....

.....

.....

.....

.....

7.

1) Write down the following numbers in descending order.

24, 75₈, 11001₂, 21₁₆ -

2) Write down the following numbers in ascending order.

AC₁₆, 98₈, 920, 100111₂, 28₁₆ -

8. Students are selected for the inter-house sports festival of B/Monarawila Maha Vidyalaya based on their admission number. Students with getting an even number belong to the 'Paravi' house and students with getting an odd number belong to the 'Mayura' house. Admission numbers of that school are written in octal numbers. The admission numbers of some of the students in that school are shown in below and indicate which house those students belong to.

Saman 22₈

Sakunthala 69₈

Vikum 96₈

Prasanna 47₈

Kithsiri 79₈

Paravi	Mayura

9. Find the Least Significant Bit (LSB), the Most Significant Bit (MSB), the Least Significant Digit (LSD), and the Most Significant Digit (MSD) of the following numbers.

	LSB	MSB	LSD	MSD
1010 ₂				
1.011 ₂				
0.10 ₂				
0.6				
125 ₈				
1010.10 ₂				
1C ₁₆				

10. Match the item in column A with the item in column B. Write the relevant English letter in the empty box.

A		B	
P	4 bits	1PB	
Q	The smallest unit of measurement of data	1 Byte	
R	1024 TB	1GB	
S	8 bits	A bit	
T	1024MB	A nibble	

11. Different storage devices have different capacities. Piyal listed several storage devices with which he has and selects and write the appropriate capacitance values to them in parentheses.

Hard Disk
 Digital Versatile Disc
 Magnetic Tape
 Cache Memory
 Register Memory
 List (150 TB / 2 MB / 64 BIT / 4.7 GB / 1 TB)

12. In reading and writing of data, data Access times to storage devices are vary. Arrange in descending order according to the access time to the storage devices in below.

- Hard Disk
 - Compact Disk
 - Cache Memory
 - Flash Memory
 - Magnetic Tape
1.
 2.
 3.
 4.
 5.

13. Name the coding systems used in computers and write down their long names.

.....

14. Write the true / false of the following statements on the dotted lines.

- 1) ASCII coding system was used in Mainframe computer.
- 2) Not only letters but also symbols and images can be represented using the Unicode method.
- 3) The BCD code represents 16 bits.
- 4) 7-bit binary numbers can be represented in EBCDIC coding system.
- 5) The BCD coding system can be used to represent the symbol of 10.

15. Write the BCD value corresponding to the following decimal numbers.

- 1) 568
- 2) 9723
- 3) 651
- 4) 288
- 5) 1258

16. The letter D in the ASCII code is represented by 68. Write the binary number representing the letter A in the ASCII code. Show your calculations.

.....

17. Consider the number 56_x . Where x is the base of the number system. Number 56_x , Which of the number system / systems you have studied may belong to?

.....

18. Write the hexadecimal values corresponding to the colors below.

Name of the color	Hexadecimal value	R	G	B
Blue	#	21	21	255
Light Green		55	227	47
Black		24	22	23
Purple		135	31	121
Yellow		255	238	0

19. Nandani had Rs. Y and Piyal had Rs. P. Nandani bought a book worth Rs 518 with her money and Piyal bought a pen worth Rs 11010_2 with his money.

$$Y = 1011011_2 \quad P = 2F_{16}$$

- 1) Find the balance amount that Nandani has
 - 2) Find the balance that Saman has.....
 - 3) Indicate the sum of the balance amounts of they both have as a hexadecimal number.....
20. Savindi has a file with a capacity of 1024 KB and Nimali has a file with 220 MB. Find the sum of the capacities in both files of they have.
-

Multiple Choice Questions

1. The decimal number equal to 100110_2 is,
 1) 83 2) 39 3) 38 4) 48
2. What is the octal number equal to the decimal number of 234_{10} ?
 1) 253_8 2) 352_8 3) 523_8 4) 325_8
3. The binary number corresponding to the hexadecimal number 359_{16} is,
 1) 1101011001_2 2) 1111011001_2 3) 1001011001_2 4) 1101011000_2
4. Which of the following are representing in the descending order of four numbers 1001111_2 , 165_8 , 687_{10} , $2A_{16}$?
 1) 165_8 , 1001111_2 , $2A_{16}$, 687_{10} 2) 1001111_2 , 687_{10} , 165_8 , $2A_{16}$
 3) $2A_{16}$, 165_8 , 1001111_2 , 687_{10} 4) 687_{10} , 165_8 , $2A_{16}$, 1001111_2
5. Consider the following statements.
 A - Data in secondary storage is not converted to the binary number when it is going to the main memory.
 B - 512_8 is equal to $14A_{16}$.
 C - 2GB memory is equal to 211 MB.
 Which of the correct statement / statements is among the above statements,
 1) A and B 2) B and C 3) C 4) B
6. Which one is shown in the MSB and the LSB respectively of the binary number of 010100100010_2 ,
 1) 1 and 0 2) 1 and 1 3) 0 and 0 4) 0 and 1

7. Which one is a valid number in 479 from the following number systems
- 1) Decimal numbers
 - 2) Decimal and Binary numbers
 - 3) Decimal and Hexadecimal numbers
 - 4) Octal and Hexadecimal numbers
8. Consider the values of the following number systems
- A) 11_2 B) 11_8 C) 11_{10} D) 11_{16}
- Correct answer is,
- 1) All numbers represent the value of three in the binary number system.
 - 2) All numbers are equal value.
 - 3) All numbers represent their own number system.
 - 4) All numbers represent the eleventh value of the decimal number system.
9. The binary coded decimal (BCD) uses 4 bits to represent each digit in the decimal number system. The bit pattern obtained when the decimal number 35 is encoded by the binary coded decimal (BCD) is,
- 1) 01010101
 - 2) 0110101
 - 3) 0011101
 - 4) 00110101
10. The bytes and the nibble of 08 bits are,
- 1) 2,2
 - 2) 1, 2
 - 3) 2, 1
 - 4) 1,1
11. The memory capacities of the two hard disks X and Y are 1TB and 1024 GB respectively. The correct statement regarding that memory capacities is,
- 1) The Y hard disk has more memory capacity than the X hard disk.
 - 2) The X hard disk has more memory capacity than the Y hard disk.
 - 3) Both hard disks have the same memory capacity.
 - 4) Since different measurements have been used, the memory capacity of the two computers cannot be compared.
12. When the cost per bit is line up from the highest value to the lowest value, the correct answer category is,
- 1) Compact disk (CD), Memory Registers, Flash memory
 - 2) Memory Registers, Flash memory, Compact disk (CD)
 - 3) Flash memory, Compact disk (CD), Memory Registers
 - 4) Memory Registers, Compact disk (CD), Flash memory
13. The fastest data access memory device is,
- 1) Compact disk (CD)
 - 2) Hard disk
 - 3) Memory register
 - 4) RAM
14. Which of the following is not considered as a coding system used in computers,
- 1) ASCII
 - 2) BCD
 - 3) Decimal
 - 4) UNICODE
15. EBCDIC The number of bits used in the EBCDIC code is,
- 1) 7
 - 2) 8
 - 3) 16
 - 4) 4

16. Which file size is the largest?
- | | |
|-----------------------|------------------------|
| 1) 1 MB .doc file | 2) 952 KB .gif file |
| 3) 600 byte .txt file | 4) 1024 byte .jpg file |
17. Which of the following is not a BCD value?
- | | | | |
|---------|---------|---------|---------|
| 1) 0100 | 2) 0011 | 3) 0101 | 4) 1010 |
|---------|---------|---------|---------|
18. What is the positional value of 1 represented by the decimal number 1546?
- | | | | |
|-----------|-----------|-----------|-----------|
| 1) 10^0 | 2) 10^1 | 3) 10^2 | 4) 10^3 |
|-----------|-----------|-----------|-----------|

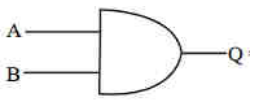
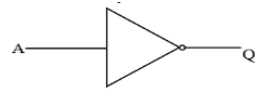
Essay Questions

- Write the binary representation of the word "on" using 7 bits per character, if the letter m represents 10910 in the ASCII table.
- Convert the following binary number to a hexadecimal number. Write down the steps.
100100100100₂
- In the inter-house competition, 'Paravi' House scored 297 points, 'Kokila' House came in second with getting 35 points more than the 'Paravi' House and 'Hansa' House came in first place with getting 537₈.
 - Indicate the score obtained by the 'Hansa' house as a decimal number.
 - Write the score of the 'Kokila' House as a hexadecimal number.

Unit 04
Logic Gates and Boolean algebra

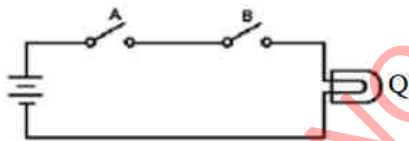
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1. Fill the below table according Basic Logic Gates.

Basic Logic Gate	image	algebra
a.		$Q = A \cdot B$
OR gate	b.	$Q = A + B$
NOT gate	 c.	

2. The gate and the door both should be opened to enter to the home. The electrical circuit for that has shown below. According to that what is the logic gate shown below.

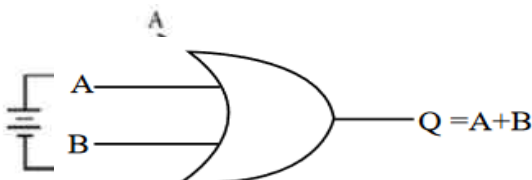
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Fill the truth table according to that gate.

A	B	Q
0	0	
0	1	
1	0	
1	1	

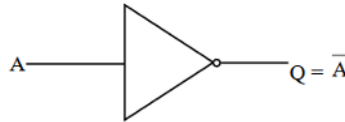
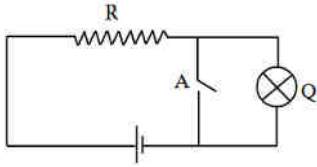
3. It can use main door or back door to entering to the home or going out from the home. The electrical circuit for that has shown below. According to that what is the logic gate shown below.



A	B	Q
0	0	
0	1	
1	0	
1	1	

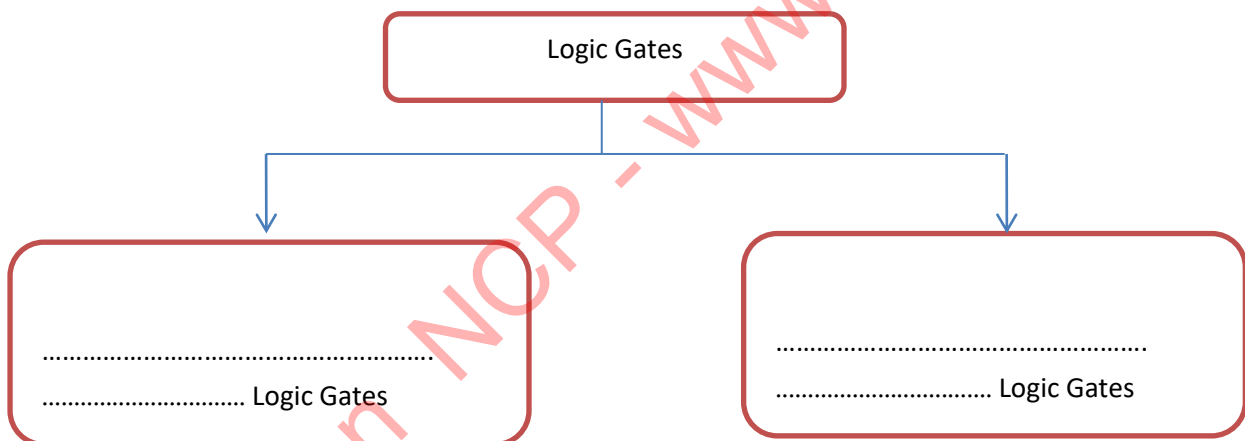
Fill the truth table according to that gate.

4. The “NOT” logic Gate is used to identify the input signal and output the opposite of the input. The electrical circuit for that has shown below. Fill the truth table according to that gate.



A	\bar{A}
0	
1	

5. What are the two types of Logic Gates according to their usage?



6. A logic gate is doing identify the Or point to it and convert to There are several technical ways to produce logic gates but also the internal circuit is consist of, diodes and

(Inputs / input / transistor / an output / restriction)

7. Draw the logic gates according to the below Boolean algebra.

- $A \cdot B + B$
- $A + (A \cdot B)$
- $(\overline{A+B})$

8. What is means Logic Circuits?

.....

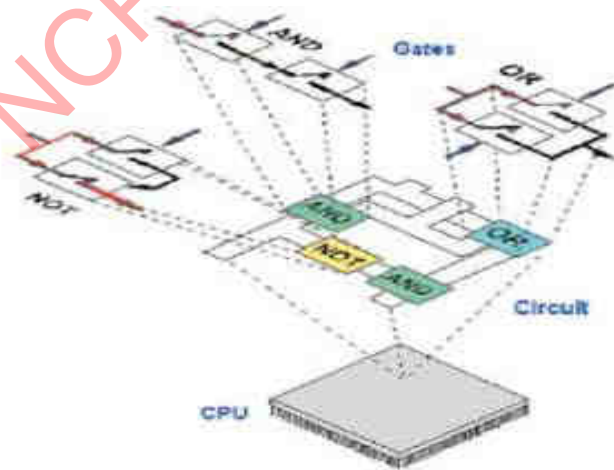
9. What is a combinational Logic gate?

.....

10. The students in the grade 10 should be select both A and B subjects and one subject from the C or D subjects. Draw the logic circuit according that scenario.



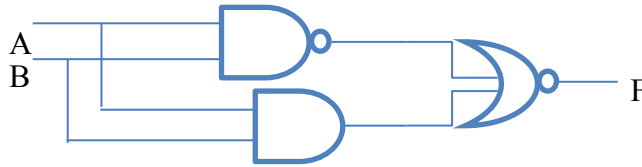
11. A computer is consist of many



12. Write down 5 electrical equipment's which are produced by using combination of logic gates.

- | | |
|----------|----------|
| 1) | 2) |
| 3) | 4) |
| 5) | |

13.



Write the Boolean algebra to above circuit.

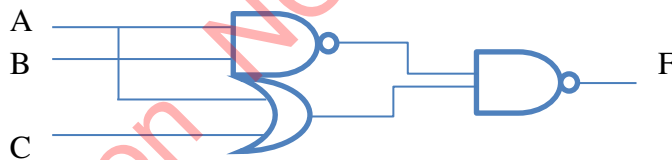
14. Write the truth table according the below Boolean algebra.

$$(A+B). C = F.$$

A	B	C	(A+B)	F

15. Central Processing Unit is made by a circuit which is consist of large number of (1)....., (2)..... And (3)..... Logic gates.

16. What are the input values for A, B and C to get the output as 1.



A - B -

C -

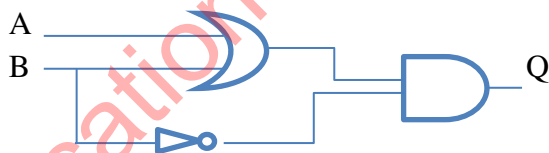
17. Draw the logical circuit according to the below truth table.

A	B	C	\bar{A}	B	$\bar{B}+C$	$\bar{A} . (\bar{B}+C)$
0	0	0	1	1	1	1
0	0	1	1	1	1	1
0	1	0	1	0	0	0
0	1	1	1	0	1	1
1	0	0	0	1	1	0
1	0	1	0	1	1	0
1	1	0	0	0	0	0
1	1	1	0	0	1	0

18. Match the scene in column A with logic gate in column B. Write down the correct number of the answer in relevant box.

A	number of the answer	B
i. Put a lock and padlock to the computer laboratory door.		1. OR
ii. If the grade 10 students of the Dharmapala school need to study Information Technology subject, they need to face an exam and should have an A pass or B pass for Mathematical paper.		2. NOT
iii. If the street lamps want to light up the time should be 6.00 p.m. – 6.00a.m. Otherwise the environment should be dark.		3. AND
iv. If it wants to avoid from CORONA virus it needs to wear face mask, keep social distances and wash hands with soap.		
v. When it shakes the yellow flag and light up the yellow bulb but still train doesn't departure.		

19. Draw the truth table according to below logic circuit.



A	B			

20. Write down rules to a circuit for automatic street lamp system which is avoided wasting electricity.

.....

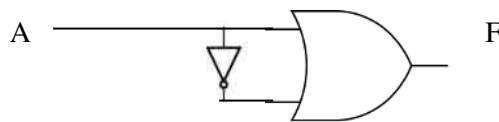
21. Which logic gate use to create a security signal system for a home?
.....
.....
22. What is the meaning of Integrated Circuits?
.....
.....

M.C.Q.

1. How many basic logic gates do you have studied ?

1). 2 2). 3 3). 5 4). 6

2. Select the correct answer according the output of the below circuit?



- 1). The output always is as 1. 2). The output always is as 0.
3). The output will be 0 or 1. 4).input and output is equal.

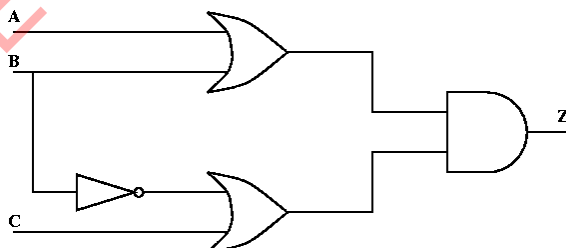
3. Which logic gate is representing from the below truth table?

(A and B are input and the output is F.)

- 1) OR
2) AND
3) NOR
4) NAND

A	B	F
0	0	1
0	1	0
1	0	0
1	1	0

4. What is the output of the below circuit.

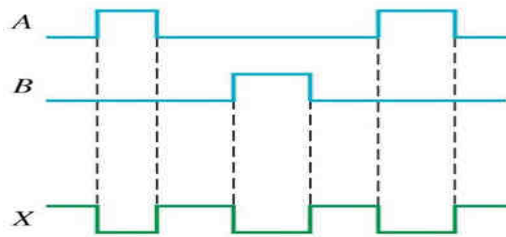


- 1). $Z = (A + B) \cdot (\overline{B} + C)$ 2). $Z = (A+B) \cdot (B+C)$
3). $Z = (A+B) + (B+C)$ 4). $Z = (A+B) + (B+C)$

5. When selecting the subjects for commerce stream in G.C.E. (A/L) Accounting (A) and Economics (B) are compulsory and students can select one subject from Business studies (C) or Information Technology (D). Which Boolean statement is properly matching with above?

- 1). A AND B AND C OR D 2). A AND B AND C AND D
3). A AND B OR C OR D 4). A AND B OR C AND D

6. A and B are the inputs and the X is the output of the below circuit. Which logic gate is matching with the output of below circuit?

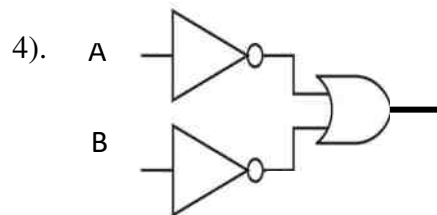
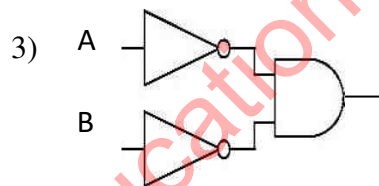
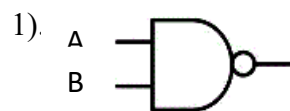


- 1). OR 2). AND 3). NOR 4). NAND

7.



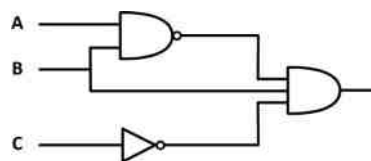
Which logic gate is matching with the output of the above logic gate?



8. What is the answer of $1.1 + 1.0$ according to the Boolean algebra.

- 1). 1 2). 0 3). 2 4). 3

9. What is the input order of below logic circuit when the output is 1?



- 1). A = 1, B = 1, C = 1 2). A = 0, B = 1, C = 1
3). A = 0, B = 1, C = 0 4). A = 0, B = 0, C = 1

10. If $A = 25$, $B = 30$ and $C = 15$ then refer the X and Y statements.

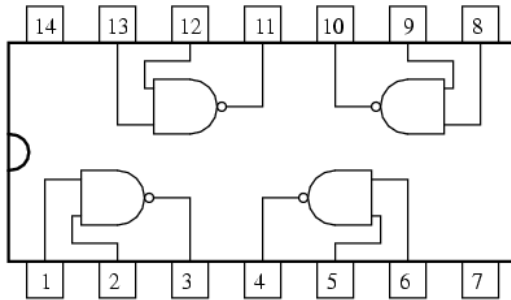
$$X \rightarrow (A > B) \text{ OR } (A > C)$$

$$Y \quad (B \rightarrow \text{X}) \text{ AND } (A > C)$$

Which answer is sequentially show the correct answer according to above statements.?

- 1). TRUE and FALSE
- 2). FALSE and FALSE
- 3). TRUE and TRUE
- 4). FALSE and TRUE

11.

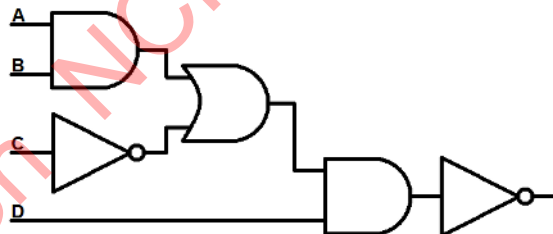


When consider the point 1, 2 and 3 of above circuit, if point 2=1 and 3=1 then what is the point 3?

- 1). 1
- 2). 0
- 3). 0,1
- 4). 1,0

Essay questions

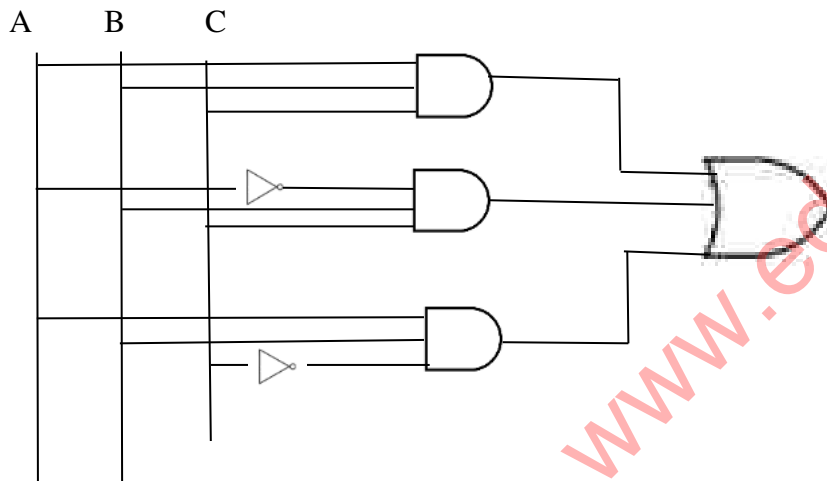
1. Write down the Boolean statement for below circuit.



2.

- 1) Draw 3 basic logic gates.
- 2) Draw truth table for above mentioned logic gates.
- 3) Represent the making way of NAND and NOR logic gates.
- 4) Write down the truth tables for NAND and NOR logic gates?
- 5) Draw digital circuits and write the truth tables for below Boolean statements.
 - i) $(X+Y) + (X + Z)$
 - ii) $C.(A+B)$
 - iii) $(A.B).(A.C)$

3. A security system is developed using 3 sensors for identify the unauthorized arrives. The sensors are work for broken of glasses, darkness and movements. Sensors can be activated or inactivated. This system automatically identify the unauthorized arrives and activated the signal system if all the 3 sensors activated or if darkness sensor and one of remaining two is activated only.
- 1) Draw a truth table to represent above signal circuit.
 - 2) Write Boolean statement for above scenario.
4. Use the below circuit to answer the questions.



- i) What are the logic gates used to above circuit?
 - ii) Write Boolean statement for above circuit.
 - iii) Draw the truth table.
- The education department has been introduced a security system for schools to use for the students when they enter to the school to avoid from CORONA (covid 19) virus. The system will check out the below conditions.
Are the students wearing face masks? (If yes 1 otherwise 0)
 - Are the students washed hands? (If yes 1 otherwise 0)
 - Is the body temperature is higher than the relevant value? (If yes 1 otherwise 0)

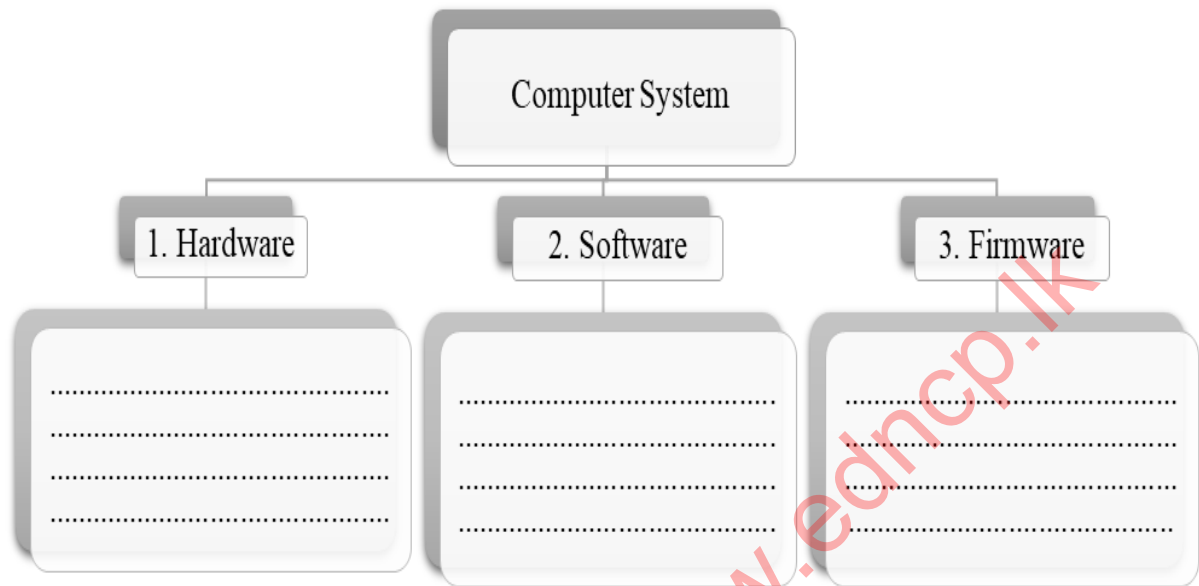
Students who are wearing face mask, washed hands and body temperature is lower than the relevant value can be enter to the school and gate will automatically open.

- 1) Create a Boolean statement to above scenario.
- 2) Draw the Logic circuit and truth table for above scenario.

Unit 05

Operating Systems

1. A computer system consists of three main components. They are Hardware, Software and Firmware. Define Hardware, Software and Firmware in the following diagram.



2. The labels given below from **A** to **G** show how a computer starts up after being powered on. The steps are not in an order and rewrite these steps according to an order. (It is enough to display only the label relevant to the step in order.)

A – The computer loads the operating system in boot drive to the **RAM**

B – Running the **Power-On-Self-Test (POST)** program. This checks all the hardware and confirms that all are functioning properly.

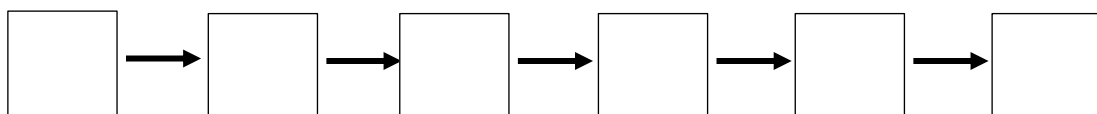
C – The user powers up the computer.

D – The operating system takes over the control of the computer and displays the **User Interface (UI)** to the user.

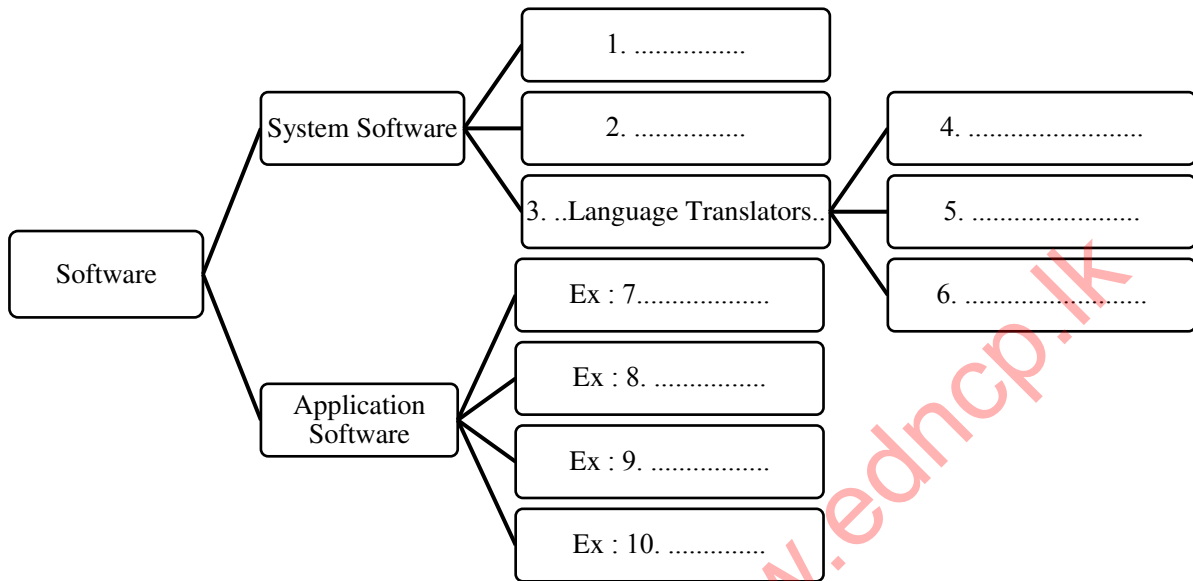
E – Reading the **Boot Drive** and **Master Boot Record (MBR)** of the Boot sequence identified by the **POST** program.

F – Accessing the **Basic Input Output System (BIOS)** from the CPU

The Order (Sequence):



3. Software can be mainly classified as System Software and Application Software. Considering that classification complete the following diagram.



4. Briefly explain the need of an operating system in a computer.

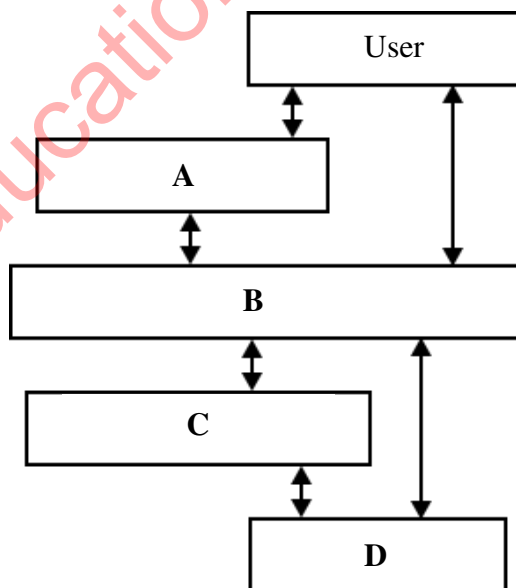
.....

.....

.....

5. The following diagram illustrates how keep the relationship between the computer hardware and software when a user interact with a computer system. Select and write the most suitable term for the labels A, B, C and D from the given list below.

List: Operating system, Hardware, Other System software, Application Software.



A

B

C

D

6. Explain the difference between licensed operating systems and Free and Open Source Operating Systems.

.....

.....

.....

.....

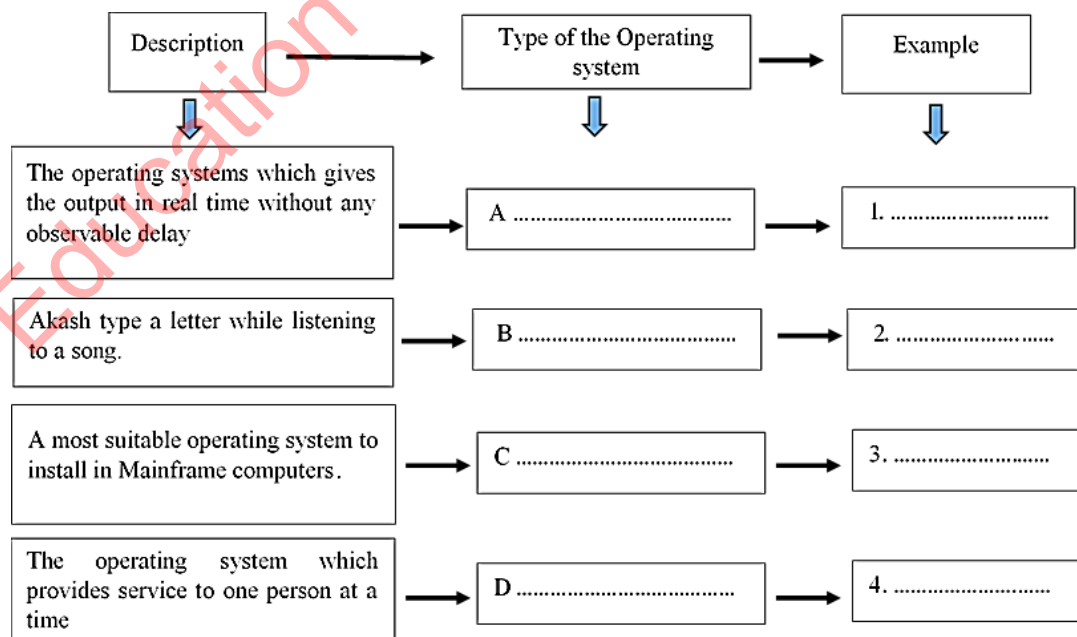
.....

7. Categorize the following operating systems as they are proprietary Operating systems or Free and Open Source Operating systems.

Operating System	Proprietary/ Free and Open Source
1) windows
2) Ubuntu
3) Android
4) Mac
5) Isuru Linux

8. Operating systems can be classified based on their functionalities. According the described functionalities in the following diagram, select the most suitable operating system for each function with examples.

List: Windows 10, Calculators, Multi-User, Real Time, Single User, Windows Server, MS DOS, Multi Task.



9. Managing the hardware of a computer and providing a user friendly interface are the main functions of an operating system. Mention the management processes done by an operating system to manage the hardware of a computer.

- i)
- ii)
- iii)
- iv)
- v)

10. Mention and briefly explain 02 methods used by an operating system to protect the computer system and files from unauthorized access.

- 1)
.....
.....
- 2)
.....
.....

11. Write 02 differences which can be seen among two file systems called File Allocation Table (FAT) and New Technology File System (NTFS).

FAT (File Allocation Table)	NTFS (New Technology File System)
1.	1.
2.	2.

12. Providing a user interface is one of the main functions of an operating system. There are two main types of interfaces. Name these two types of interfaces and write the features that can be seen in each interface.

Interfaces	
1.	2.
<ul style="list-style-type: none"> • • • 	<ul style="list-style-type: none"> • • •

13. Explain the need of Utility programs in operating systems.

.....

.....

.....

.....

14. Name 03 Utility programs that can be found in the operating systems and explain how they contribute to the performance of the computer.

.....

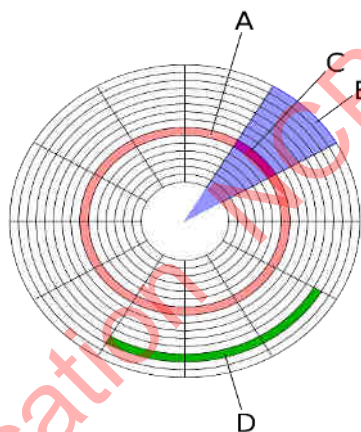
.....

.....

.....

.....

15. The following diagram illustrates the parts which are useful when storing files in a disk as **Sector, Block, Track** and **Cluster**. Match these parts with the labels **A, B, C** and **D**.



A

B

C

D

16. State whether the following statements are **True** or **False** regarding Disk partitioning.

- i) In Disk partitioning an individual drive is divided in to multiple logical drives.
.....
- ii) It is needed the Disk partitioning when we need to have more than one operating system in the same machine. -
- iii) In Windows environment, Disk partitions, Multimedia drives, flash drives would be identified as 'Folders'. -
- iv) In Linux environment, Disk partitions, Multimedia drives, flash drives would be identified as 'Drives'. -

17. Mention the problems that may occur due to Disk Fragmentation in a computer.

.....

.....

.....

.....

.....

18. “Linux based operating systems do not require an additional Utility program for Defragmentation”

Do you agree with this statement or not?

If you agree, explain the reasons for that.

.....

.....

.....

.....

.....

.....

19. Files are used to store data and information in a computer. These files are stored in a computer under different file names. Identify the file name, file extension and file type separately from the file names listed in the table below.

File name	Name of the file	File extension	File Type
1. first.pptx
2. fpc_3.0.4.exe
3. salary.xlsx
4. home.jpg
5. scl_Anthm.mp3

20. Name 04 file attributes that are maintained (stored) by an operating system regarding a file.

- i)
- ii)
- iii)
- iv)

Multiple Choice Questions

1. The **incorrect** statement regarding the modern Operating systems is,
 - 1) Operating systems are required to work not only with computers but also with smart phones, Tablet PCs and sophisticated machinery.
 - 2) It is not essential an operating system to do works in modern Multi-Tasking computers.
 - 3) Programs that operate complex machines are called embedded systems.
 - 4) Android, Windows and iOS can be considered as operating systems which are using in smart phones and Tablet PCs.
2. The operating system which capable of processing data without a buffer delay as soon as input received is,
 - 1) Multi User
 - 2) Single User
 - 3) Multi Task
 - 4) Real Time
3. The **correct sequence order** of computer booting process is,
 - 1) BIOS, POST, Bootstrap Loader, MBR, Operating System (OS), User Interface (UI)
 - 2) Bootstrap Loader, BIOS, MBR, POST, User Interface (UI), Operating System (OS)
 - 3) POST, BIOS, MBR, Operating System (OS), Bootstrap Loader, User Interface (UI)
 - 4) User Interface (UI), BIOS, POST, MBR, Bootstrap Loader, Operating System (OS)
4. The **correct** statement regarding an operating system is,
 - 1) It is an application software.
 - 2) It is a firmware which is stored in the main circuit.
 - 3) It is stored in the secondary memory and comes to the main memory when the computer is turned on.
 - 4) One computer can have only one operating system.
5. A file in a computer with Windows operating system was deleted by a mistake. The best way to obtain this file back with its original format is ,
 - 1) Using the utility software called Disk Defragmentation.
 - 2) Using Recovery software.
 - 3) By formatting the hard disk.
 - 4) Using Restore facility in Recycle Bin.

Essay type Questions

1.

- 1) Define 'Utility software' in computer system which runs in system software.
- 2) Match the items described in column 'A' with the items shown in column 'B' in the table below. (It is enough to write answer using the suitable labels only)

into	into	into	into
into	into	into	into
into	into	into	into
into	into	into	into
into	into	into	into

- 3) Mention 02 instances where a hard disk needs to be partitioned.

2.

- 1) Name the two main types of interfaces used in computers and list 02 differences that can be seen between them.
- 2) Mention 03 services that performed by an operating system in file management.
- 3) Give 02 examples for Real-Time Operating Systems.

Unit 06

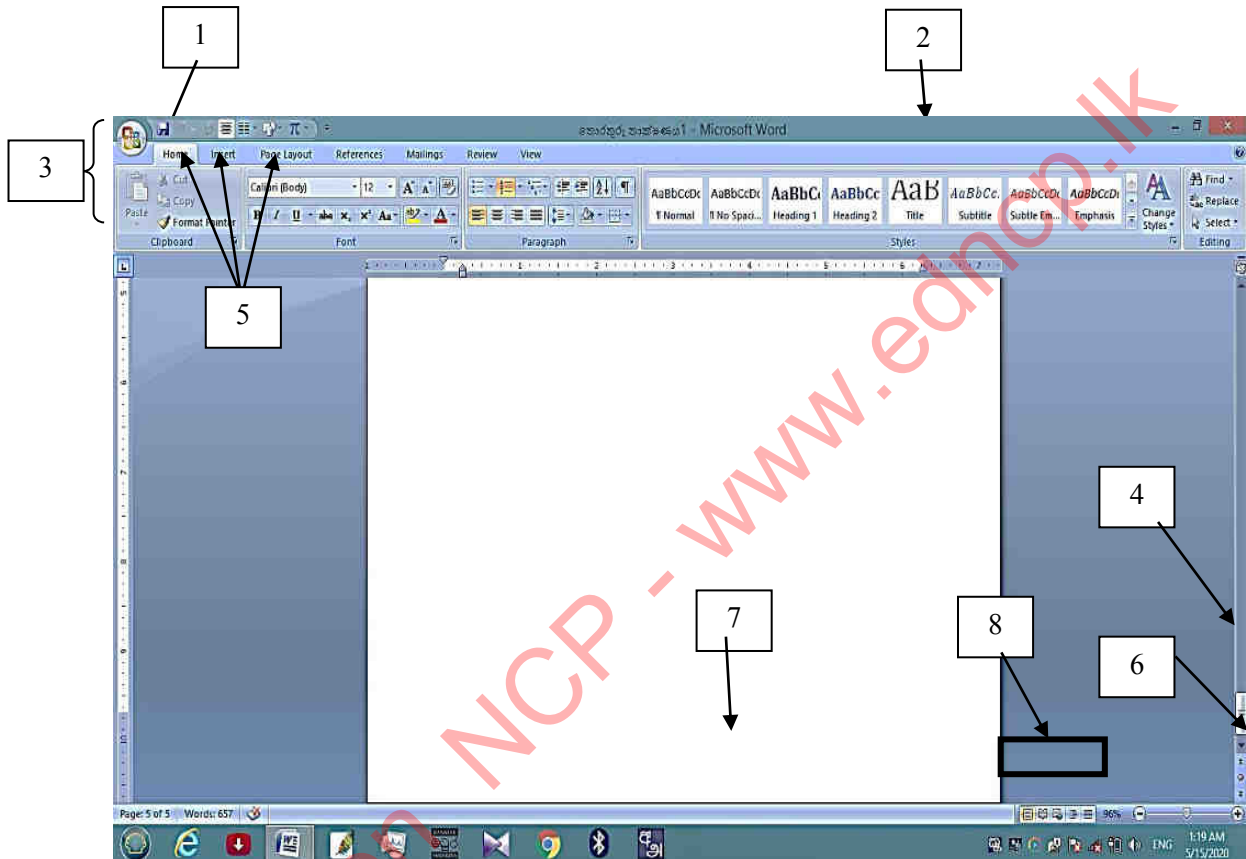
Word processing software

Education NCP - www.edncp.lk

1. Name some types of documents you can edit using word processing software

- 1)
- 2)
- 3)
- 4)

2. The following is an interface to a word processing software. Name the numbered elements.



- | | |
|----------|----------|
| 1) | 5) |
| 2) | 6) |
| 3) | 7) |
| 4) | 8) |

3. Use the (✓) mark if the following are true and the (✗) mark if incorrect.

- 1) The status bar of word processing software is used to move up and down the document.
(.....)
- 2) You can only select the word when you double-click the mouse on a word in a paragraph.
(.....)
- 3) In addition to the tools shown in some of the categories on the ribbon, other tools are displayed by the "Dialogue Box Launcher".
(.....)
- 4) The tool used to lower the number 2 in the expression CO₂ below the other letters is,.(.....)



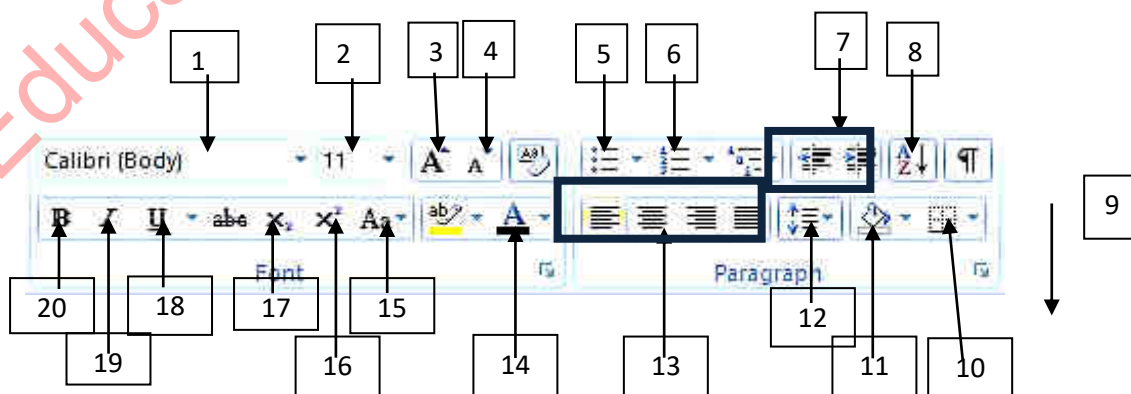
4. Below are some of the word processing software given under column A. Select the companies that produced them from column B.

A	B
Software Name	Company
1. Libre Office Writer	A. Source Gear Corporation
2. Open Office Writer	B. Microsoft Office Corporation
3. AbiWord	C. Adobe System Incorporated
4. King soft Office Writer	D. Corel
5. Microsoft Office	E. The Document Foundation(Open Source)
6. Word Perfect	F. King Soft
7. LyX	G. Apple
8. Frame Maker	H. The LyX Project
9. iwork Pages	I. Apache Software Foundation (Open Source Software)

5. Write down what the following shortcut keys are used for.

- 1) Ctrl+S -
- 2) Ctrl+X -
- 3) Ctrl+A -
- 4) Ctrl+HOME-
- 5) Ctrl+O -
- 6) Ctrl+V -
- 7) Ctrl+H -
- 8) Ctrl+END -
- 9) Ctrl+V -
- 10) Ctrl+C -

6. Identify and name the tools shown in the image below.



- | | |
|-----------|-----------|
| 1) | 11) |
| 2) | 12) |
| 3) | 13) |
| 4) | 14) |
| 5) | 15) |
| 6) | 16) |
| 7) | 17) |
| 8) | 18) |
| 9) | 19) |
| 10) | 20) |

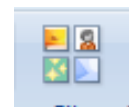
7. Select the formatting given in parentheses to get sentence B from sentence A.

- 1)
 - A. Sri Lanka is known as the pearl of the Indian Ocean.
 - B. Sri Lanka is known as the pearl of the Indian Ocean.
(.....)
- 2)
 - A. Do not send a single drop of water into the sea without taking advantage of it.
 - B. **Do not send a single drop of water into the sea without taking advantage of it.**
(.....)
- 3)
 - A. God honors you if you behave well.
 - B. *God honors you if you behave well.*
(.....)
- 4)
 - A. Covid virus is destroyed at 350C..
 - B. Covid virus is destroyed at 35⁰C.
(.....)
- 5)
 - A. The world famous Taj Mahal is located in Agra, India.
The world famous Taj Mahal is located in Agra, India..
(.....)
 - B. The world famous Taj Mahal is located in Agra, India..
 - C. The world famous Taj Mahal is located in Agra, India.
.(.....)

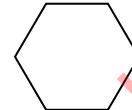
(Line Spacing / Superscript / Bold / Italic / underline / align left / bullets / subscript)

8. Items that can be obtained by using the tool found in column A are shown in column B. Match them.

A



B



Information technology



subject	A	B
IT	80	93
English	84	74

9. Answer the questions based on the bill below.

Tecno Computer Accessories Vendors				A
No	Item	Price		C
		Rs	Cents	
01	monitor			
02	key board			
03	mouse			
04	Ram			
05	Flash drive			

1) Write the necessary facilities for setting up tables in letters A, B, C.

- A.
B.
C.



2) A new column called "Size" should be added between the columns showing the serial number and the product. What is the facility provided for that?

.....

3) The word mouse mentioned in line 3 was typed by mistake. The whole line should be removed. What is the facility provided for this?

.....

10. Underline the answers to the following questions.

1) The tool to be used to search for a word in word processing software is,

1)



2)



3)



4)



2) The tool to use to justify a line is,

1.



2.



3.



4.



3) The tool used to adjust the page size is,

1)



2)



3)



4)



4) What is the tool used to correct spelling and grammar spelling?

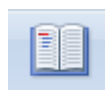
1)



2)



3)



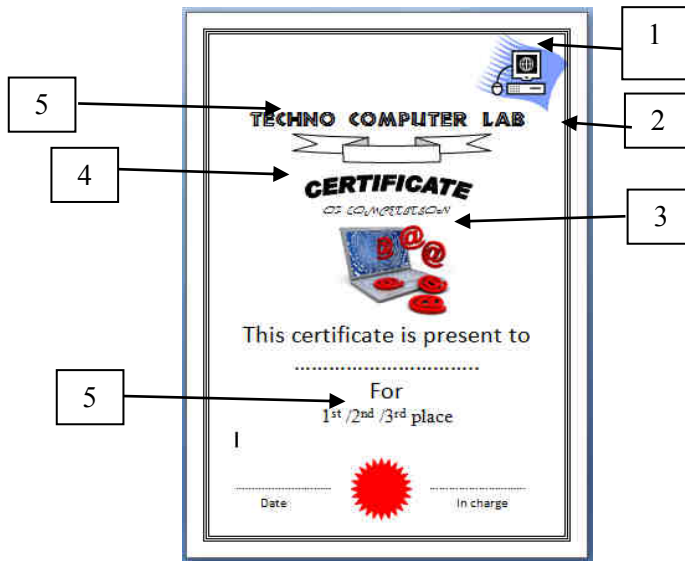
4)



11. The following are the features provided by the change case in the word processing software to change the simple and capital letters. Write down what purpose they will be used for in the space provided..

- 1) Sentence case -.....
2) lowercase -.....
3) UPPERCASE -.....
4) Capitalize Each Word -.....
5) tOGGLE cASE -.....

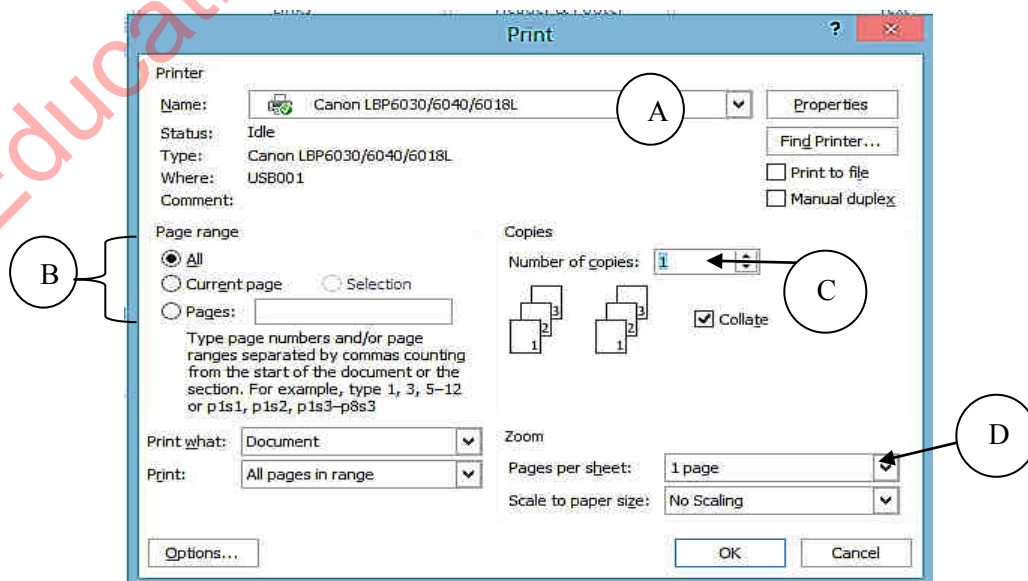
12. Below is the certificate designed to be awarded for the IT Day Competition of Sri Soratha College. Write answers to the following questions based on that.



- Write down the tools used for 1,2,3,4,5 respectively.
 1..... 2..... 3..... 4.....
 5.....
- There are different shaped letters. Name the facility in word processing software to get such different shaped letters.

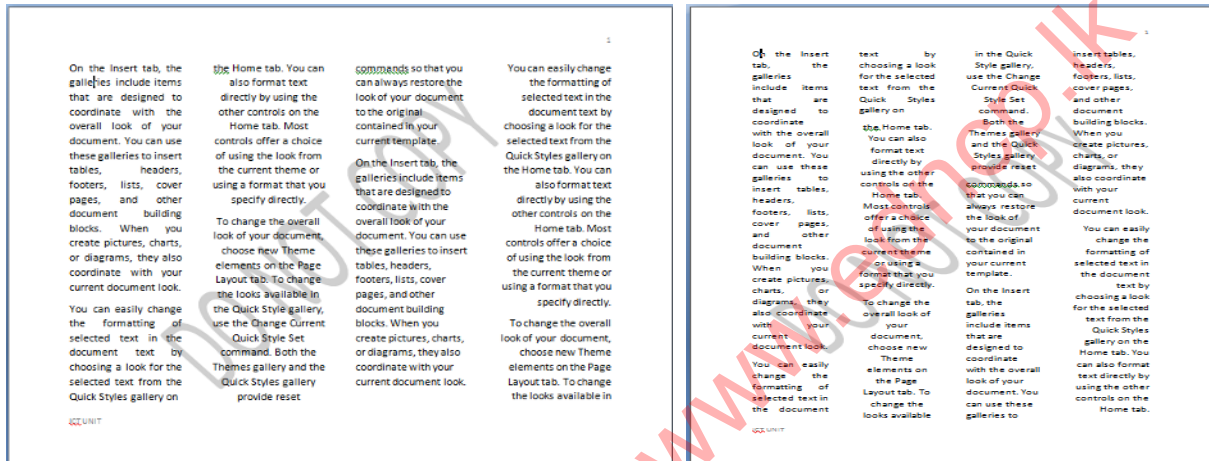
- In addition to the word processing software, name the appropriate software to create such a certificate.

13. Below is the dialog box that we receive when the print command is given. Answer the questions based on that.



- 1) What kind of hardware might have the name in place of A?
- 2) What is the selection list in B used for?
- 3) By C you can get the number ofrequired.
- 4) By selecting the option in indicated D ,it decides theof the page.
- 5) For a printer to work properly with your computer programs need to be installed.

14. Answer the questions based on the two documents below.



1.

2.

- 1) The correct statement regarding Figures 1 and 2 above is,
 - a. The orientation of Figure 1 is Portrait and Figure 2 is Landscape.
 - b. The orientation of Figure 1 is Landscape and figure 2 is Portrait.
 - c. Both figures have the same orientation.
 - d. None of the above are correct.
- 2) Both images display a caption “DO NOT COPY”. The tool to use to get it is,

a



b



c



d



- 3) The tool you should use to add page numbers to this document is,

a.



b.



c.



d.



4)

Under every page of the document should be “ICT UNIT / Samanala maha Vidyalaya / Gemunupura.” The tool needed to note it is,

a.



b.



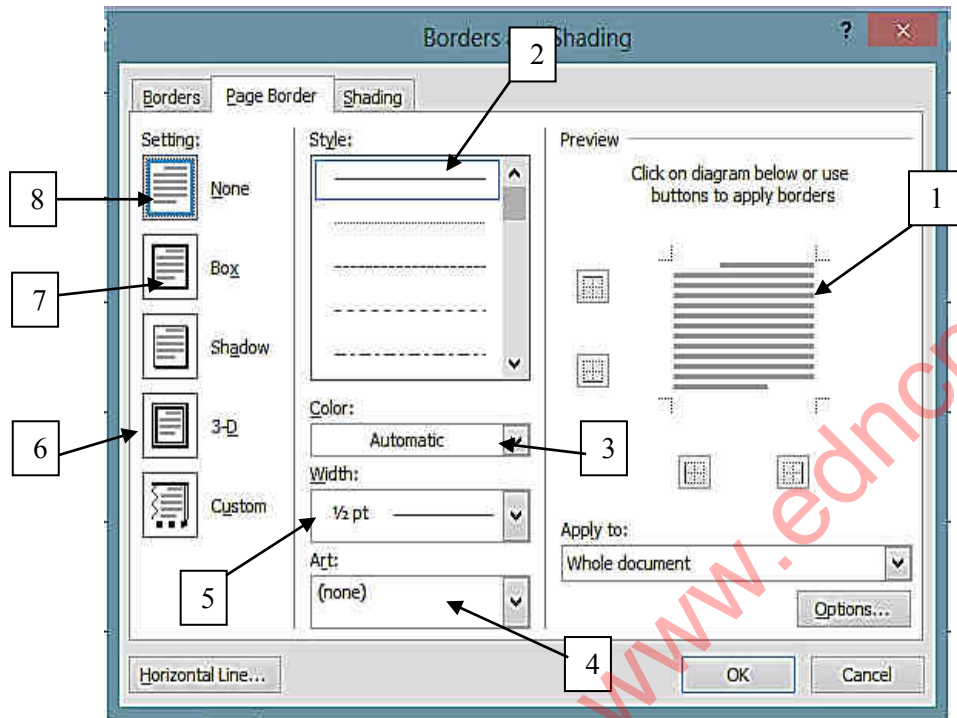
c.



d.

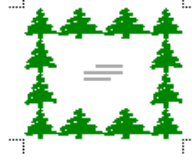


15. The dialog box below is a dialog box provided for applying borders to a page. Write answers to the questions asked based on that.



- 1) The benefit of the No. 1 location is,
- 1) Applying a border to a page.
 - 2) Applying an image to the border of a page.
 - 3) Preview all formatting.
 - 4) To give the page a border with a shadow.

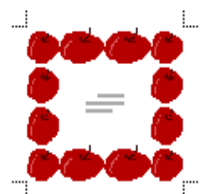
- 2) The formatting you get with No 7 location is,
- 1)
 - 2)



3)



4)



- 3) The number which shows the facility to increase the width of a border placed on a page is,

1) 5

2) 6

3) 7

4) 2

- 4) The place where you need to click to remove a border is,



1) 1





2) 4

3) 3

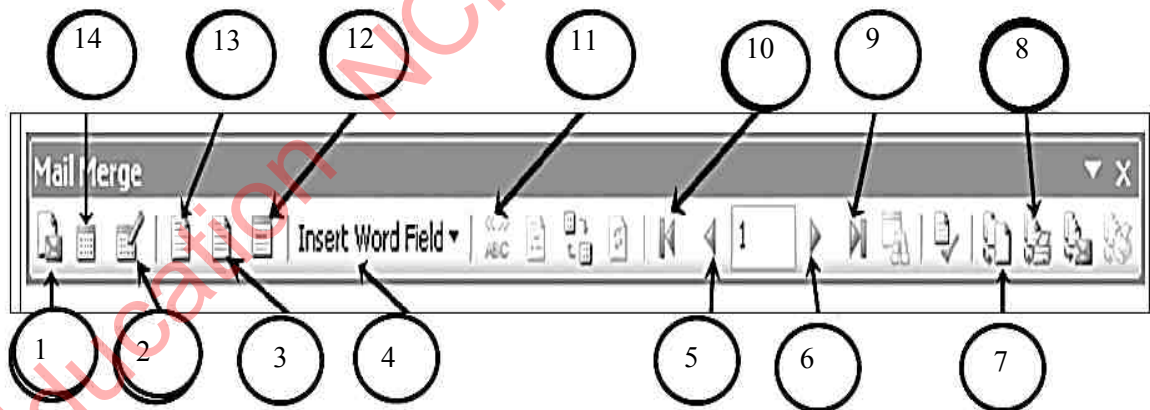
4) 8

16. Write down the purpose for which the tools in the table below are used.

17. The following are the tools used for mail merging. Name those tools.



- 1)
- 2)
- 3)
- 4)
- 5)
- 6)
- 7)

- 8)
- 9)
- 10)
- 11)
- 12)
- 13)
- 14)

18. The formatting 1-5 of the following document is done in a document created using a word processing software.

<p>on the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert</p> <p>tables headers footers lists cover pages and other document building blocks. When you create</p> <p>pictures charts diagrams</p> <p>they also coordinate with your current document look.</p> <p>You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.</p> <p>IT club / Sri sumangala Vidyalaya/Rakvana</p>	<p>On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert</p> <ol style="list-style-type: none"> 1. tables 2. headers 3. footers 4. lists 5. cover pages <p>and other document building blocks. When you create</p> <p><input type="checkbox"/> pictures <input type="checkbox"/> charts <input type="checkbox"/> diagrams</p> <p>they also coordinate with your current document look.</p> <p>You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. <u>You can also format text directly by using the other controls on the Home tab.</u> Most controls offer a choice of using the look from the current theme or using a format that you specify directly.</p> <p>IT club / Sri sumangala Vidyalaya/Rakvana</p>
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1.
2.

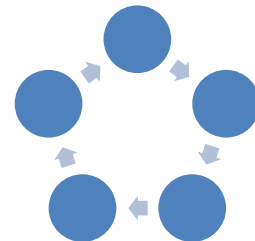
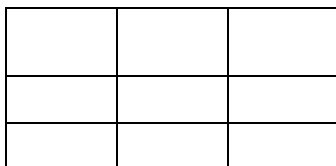
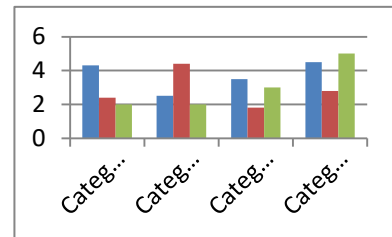
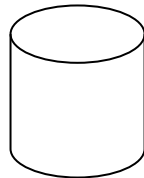
3.
4.

5.





















19. Underline the answer with the appropriate wording to fill in the blanks in the following sentences.

- 1) In a word processing software one should..... and to move a copy of a word to another place.
 - 1) copy ,replace
 - 2) cut, replace
 - 3) copy, paste
 - 4) cut, paste
- 2)is used in order to display a single sentence on the top of all the pages of a document andis used to display a single sentence on the bottom of all the pages of a document.
 - 1) Header, footer
 - 2) footer, Header
 - 3) Header, text box
 - 4) footer, textbox
- 3) Determine the typing limit of a page can be done by.....while would help in adding graphs.
 - 1) Margins , table
 - 2) Orientation, table
 - 3) Margins, chart
 - 4) Orientation, chart
- 4) Searching for a word in a document is done byand using other words instead can be done using.....
 - 1) Insert, Find
 - 2) Insert, Replace
 - 3) Find, Insert
 - 4) Find, Replace
- 5) is used to frame a picture, and.....is used to turn an image.
 - 1) picture style, Rotate
 - 2) Position, Rotate
 - 3) Picture Style, position
 - 4) position, rotate

20. Write down the facilities provided in the word processing software to get the following.





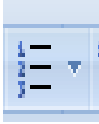





Multiple Choice Questions

1. A task that cannot be created by word processing software is,
 - 1) Invitations
 - 2) worksheet
 - 3) letters
 - 4) certificates
2. Choose the correct statement from the following statements about cloud computing.
 - 1) Microsoft One Drive Word is an example for this.
 - 2) Consuming a lot of computer memory is a disadvantage.
 - 3) It is mandatory to install word processing software in the computer.
 - 4) Although the document can be edited on the Internet, space must be set aside in the computer to save the document.
3. The shortcut keys for copying objects is,
 - 1) ctrl+x
 - 2) ctrl+c
 - 3) ctrl+v
 - 4) ctrl+N
4. The formatting used to obtain sentence B from sentence A below is,
 - i. Farmers grow paddy.
 - ii. Farmers grow paddy.
 1. 
 2. 
 3. 
 4. 
5. In the dialog box that opens when printing a document, the choices you can not make are:
 - 1) Selection of pages for printing.
 - 2) Determine page size
 - 3) Choose the color to apply to the page.
 - 4) Choosing how many copies are needed.
6. Used to right align a paragraph.
 1. 
 2. 
 3. 
 4. 
7. These are the two icons associated with the facility provided to find and replace a word
 1. 
 2. 
 3. 
 4. 
 5. 
 6. 
 7. 
 8. 
8. Used to correct spelling and grammar,
 1. 
 2. 
 3. 
 4. 

9. In a document, the word group A is changed as B shown below.

- | A | B |
|------------|-----------|
| 1) Amarica | ✓ Amarica |
| 2) China | ✓ China |
| 3) Braziel | ✓ Braziel |
| 4) Russia | ✓ Russia |

The tools used for A and B are,

- 1)   2)   3)   4)   .


10. Column A of the table below shows some of the word processing software. Column B lists the companies that manufactured them.


	A		B
A	open Office writer	P	corel
B	word perfect	Q	Microsoft Corporation
C	Frame maker	R	Apache Software foundation
D	Microsoft Office word	S	Adobe System Incorporation

The correct answer when A and B matched is,

- 1) ☐ → ☐, ☐ → ☐, ☐ → ☐, ☐ → ☐
- 2) ☐ → ☐, ☐ → ☐, ☐ → ☐, ☐ → ☐
- 3) ☐ → ☐, ☐ → ☐, ☐ → ☐, ☐ → ☐
- 4) ☐ → ☐, ☐ → ☐, ☐ → ☐, ☐ → ☐

11. The tool used to organize a list of words in alphabetical order is,

1.  2.  3.  4. 





12. The shortcut keys that can perform the same function as the icon  in a document is:

- 1) ctrl+s 2) ctrl+P 3) ctrl+x 4) ctrl+ v

13. A facility provided to reduce the font size is,

1.  2.  3.  4. 


14. The tool used to insert an image into a document is,

1.  2.  3.  4. 

15. With the icon



- | | |
|---|---|
| 1) The opening letter of the paragraph is enlarged. | 3) The spacing between two rows can be increased. |
| 2) Enlarges font size. | 4) The color of the letters can be changed. |

16. The other software that opens concurrently when inserting a graph using icon  into the document is:

- | | |
|--------------------------|----------------------|
| 4) Presentation software | 6) Database software |
| 5) Spreadsheet software | 4) Photoshop |

17.  This has been given to you to,

- 1) To determine the font size.
- 2) To select the font.
- 3) To change the simple capital letters of the English alphabet.
- 4) To increase the font size.

18. By Dialogue Box Launcher one can,

- 1) Indicates that there are other tools in addition to the ones on the ribbon.
- 2) Used to move up and down the document.
- 3) Used to check document proofs.
- 4) It consists of commands that need to be done very quickly and can be changed according to the needs of the user.

19. Two types of orientations are,

- | | |
|---------------------------|-------------------------|
| 1) A4/B5 | 2) Landscape/ Portrait |
| 3) Top mark / bottom mark | 4) Dropping and looping |

20. The facility provided to apply page numbers to a document is,

1.



2.



3.



4.

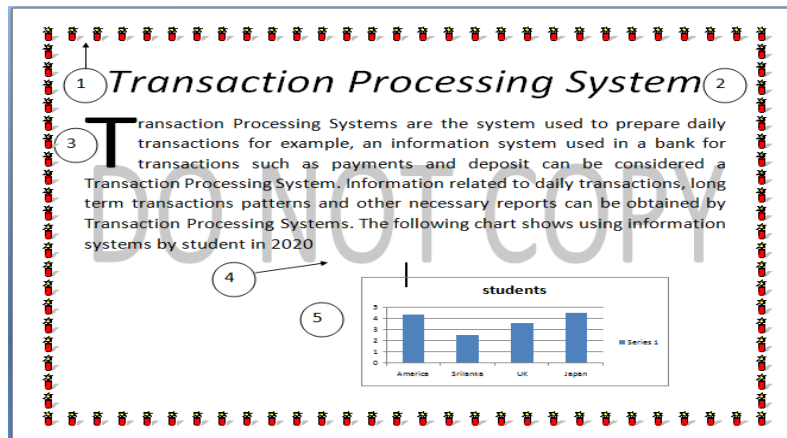


Essay type question

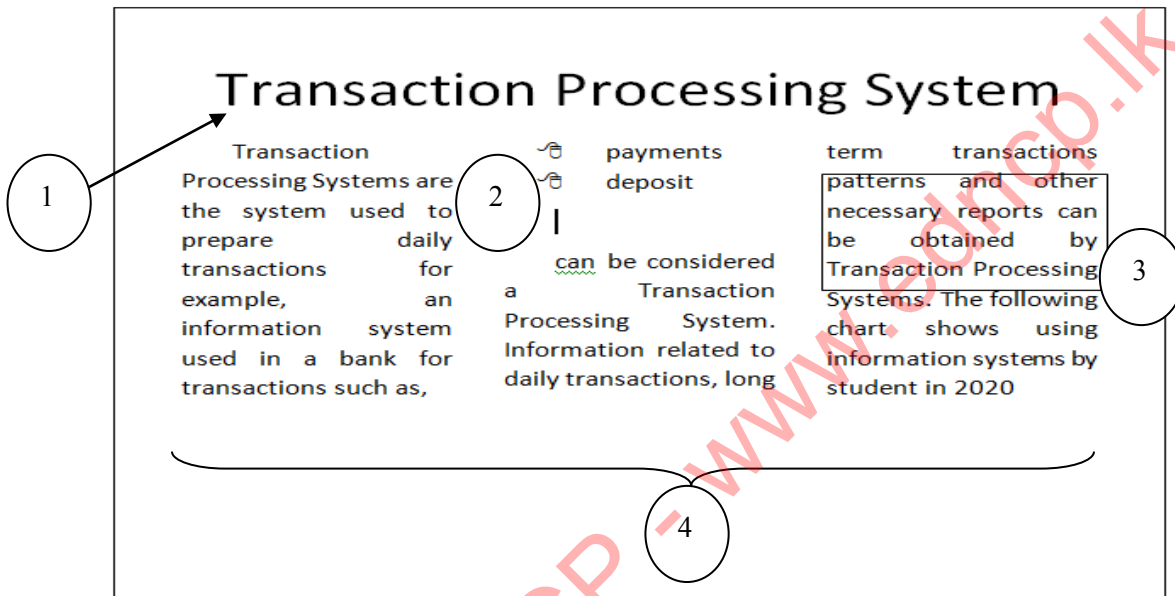


Look at the above advertisement.

1. Name the formatting mentioned in number 1.
 - 1) Name the facility provided to get the image mentioned in number 2.
 - 2) Name the format given to the word Sakura in number 3.
 - 3) Name the facility provided to obtain the image mentioned in Figure 4.
 - 4) What sort of alignment is used in the given paragraph?
2. Pay attention to the image below.



- 1) Write the facility to mark the boundary shape around the page as shown in number 1.
 - 2) What is the formatting of the alphabet in number 2?
 - 3) By what facility can the first letter be magnified as shown in number 3?
 - 4) Name the facility you need to use to get Do not copy as mentioned in number 4.
 - 5) Name the facility in the Insert menu to get the image mentioned in number 5.
- 6) Answer the questions asked using the image below.



- 1) Name the facility to write with the selected font size as shown in Figure 1.
- 2) Which facility should I choose to get the list in No. 2?
- 3) How do I frame a paragraph or section as shown in Figure 3?
- 4) With what tool can this document be arranged in three columns as mentioned in No. 4?
- 5) Write down two methods that can be used to save this document.

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Unit 07
Electronic spreadsheets

Education NCP - www.edncp.lk

1. Fill in the blanks.
 - 1) The worksheet is made up of a group of cells located.....and..... on a two-dimensional plane.
 - 2) Using a shortcut combination,..... + a user can move to the end of the data range in the relevant direction of a spreadsheet.
 - 3) First and second is used when writing the cell address.
 - 4) The result of a formula is always updated automatically when the values of used to write that formula are changed.

2. Worksheet rows are named with and columns are named with the combination ofandMatch the correct solution.

- | | |
|---------------------|----|
| 1) $=5+2*3^2/(6-3)$ | 50 |
| 2) $=8/4*2^4$ | 18 |
| 3) $=3^2*4/2$ | 35 |
| 4) $=2^3/(5-1)*5^2$ | 11 |
| 5) $=2^5+4-1$ | 32 |

3. Write short answers..

- 1) Name 03 spreadsheet software you know

.....

.....

.....

- 2) Write down 5 tasks that can be accomplished by a spreadsheet software

.....

.....

.....

- 3) Write the shortcut key combination used to navigate to cell A1 from anywhere in the worksheet.....

- 4) Naomi, who is in the process of inserting data into a program, needs to enter phone numbers. Briefly explain the formatting required to display the phone number 0715777777 with zero.

.....

.....

.....

- 5) Write down the operator precedence used in a spreadsheet.

.....

- 6) Write 4 ways of correctly writing the SUM function.

=SUM(A1:A3,C1:C3)

.....

.....

.....

.....

- 7) Describe two ways in which the fill handle can be used to copy a formula.

.....

.....

- 8) Briefly compare relative cell addresses, row absolute cell addresses, column absolute cell addresses, and row column absolute cell addresses and write an example.

.....

.....

- 9) Write down 5 types of charts that can be used in spreadsheets with their usage

.....

.....

.....

.....

- 10) If we want to specify the value of a data combination as money (\$), to which data type does it change?

.....

4. Answer the questions using the spreadsheet below

NCP/ANU/Gam/Mihi/Ihalaama viduhala - 3rd Term Test -2019																
Marksheet - Grade 11																
Index No.				pass/fail		pass/fail		pass/fail		pass/fail		History	pass/fail	Total Marks	Average	position
	Name	Sinhala		religion		science		Maths		English						
1	Nawoda Gayani	90	Pass	85	Pass	35	Fail	39		30		75		354	59.00	4
2	Geethika Samanmali	46	Pass	55	Pass	30	Fail	35		42		60		268	44.67	5
3	Nimesh senevirathna	65	Pass	75	Pass	60	Pass	56		54		78		388	64.67	2
4	Pathum Dinesh	78	Pass	85	Pass	75	Pass	70		65		80		453	75.50	1
5	Harshana Lakmal	77	Pass	86	Pass	65	Pass	45		32		56		361	60.17	3
6	Malindu Methsara	80	Pass	42	Pass	22	Fail	10		23		65		242	40.33	6

- 1) Write the formula to show “Pass” for the students who scored 40 above and “Fail” for the students who scored below 40 of the above spreadsheet.
.....
 - 2) Write the formula used to find the total score.
.....
 - 3) Write the formula used to calculate the average mark
.....
 - 4) Write the formula used to retrieve the grade obtained.
.....
 - 5) Write steps of how to use the fill handler to copy the formula in cell O4 to cell O9.
.....
.....
5. Answer the questions based on the spreadsheet below.

Monthly Income & Expenditure Detail Report of Mr & Ms Silva					
Jan-20					
Income			Expenditure		
1	pension	7500	1	Food	20000
2	Rent income	5000	2	Transpotation	15000
3	money from Children	8000	3	vehicle Maintanence	12000
	(1 dollar is rs. 200) \$ 400		4	Fuel	4000
			5	medicine	3500
			6	employee's salary	40000
			7	home maintenqance	4500
			8	bill payments	7000
			9	savings	99000
	Total	20500	Total		106000

- 1) Write the formula used to get the dollar money from the children into rupees in C6.
.....
- 2) Write down the formula that can be used to get the total income.
.....
- 3) If the savings are made after deducting expenses from the total income, write down the formula that can be used to obtain it.
.....
- 4) The cents values of the above spreadsheet are not specified. Write the required formatting to display the cents value?
.....
.....
- 5) Name the most suitable type of chart to graphicalize income, expenditure and savings. Justify your answer giving reasons.
.....

Multiple Choice Questions

- Which of the following statements is correct about spreadsheet software?
 - The combination of a row and a column is called an absolute address.
 - The cell address is represented by a combination of column name and row number.
 - The contents of one cell cannot be transferred to another cell.
 - A directory contains either labels or formula.
- The length and width of a rectangle are found in cells A2 and B2. Which of the following is not a formula of finding its perimeter?
 - $=A2+A2+B2+B2$
 - $=SUM(A2,B2)$
 - $=A2*2+B2*2$
 - $=(A2+B2)*2$
- Data is entered in to A and B columns as shown in the given spreadsheet and a value has been derived in to C1 cell using a formula. To get the relevant values the formula has copied to the downward cells
The formula inserted into cell C1 could be,

	A	B	C
1	50	100	150
2		150	200
3		200	250
4		250	300

- $=A1+B1$
 - $=\$A1+B1$
 - $=A\$1+B1$
 - $=\$A\$1+B\$1$
- Cell B6 contains the formula = count (A1: B5) .Which of the following is displayed in cell B6?

	A	B
1	Name	Marks
2	Ama	15
3	Sama	20
4	Silva	ab
5	Mala	30
6		

- 3.
 - 4.
 - 10.
 - 65.
- Cell B6 contains the function = max (B1: B5). Which of the following is displayed in cell B6?
 - 4
 - 30
 - 15
 - 65

- Answer questions 6 and 7 using the table below.

	A	B	C
1	5	4	
2	2	6	
3			

6. The C1 cell in the given spreadsheet section contains the formula = A1 + B \$ 1. What happens when the formula in cell C1 is copied to cell C2?

1) 6 2) 8 3) 9 4) 11

7. Which of the following is an invalid value for absolute cell addresses?

1) U\$4 2) U\$3\$ 3) \$N\$5 4) \$G9

8. Which of the following can be used to find the number of cells in a cell range?

1) SUM 2) MAX 3) AVERAGE 4) COUNT

9. Consider the following cell addresses.

a. \$A3 b. \$B\$6 c. E\$9 d. \$C3\$

The correct spreadsheet cell address of the above is,

1) b only 2) a and c only 3) d only 4) a, b and c only

10. Consider the following.

A) =Average(A3:C8)

B) =Sum(A3:C8)

C) =Max(A3,C8)

D) =Min(A3:C8,E9)

Which of the following is a valid spreadsheet formula?

1) b only. 2) a,b and d only

3) a and c only. 4) a,b,c, and d all

11. Used to convert one cell in a table to several cells,

1) Merge 2) Split 3) Format 4) Review

12. Which of the following is a valid SUM function?

1) =SUM(A1:A5) 2) =SUM A1:A5 3) =SUM A1+A2 4) =SUM A(1:5)

- Below is a list of slippers sold at a shoe store in 2016. Use this to answer questions . 13,14.

	A	B	C	D	E
1	Code No	Item	Quantity	Unit Price	amount
2	000A1	Baby-size 3	105	600.00	
3	000A2	Baby-size 4	202	600.00	
4	000A3	Lady-size 6	260	800.00	
5	000A4	Gents-size 8	300	850.00	
6	000A5	Gents-size 7	250	825.00	
7					
8					

13. The formula to write in cell E4 to find the proceeds from the sale of items with code 000A3 is,

- 1) =SUM C4+D4
 2) =SUM(C4:D4)
 3) C4*D\$4
 4)=C4*D4

14. The formula to write in cell C7 to find the total number of slippers sold is,

- 1) =SUM(C2:C6)
 2) =SUM(C1:C6)
 3) =SUM(C1:C7)
 4) =SUM(C2:C7)

- Below is a section of a spreadsheet prepared by a teacher, including the cost of expanding facilities for most students in a school computer lab.

	A	B	C	D	E	F
1						
2		<u>School Computer Laboratory</u>				
3	Item	Unit Cost- Rs.	Quantity	Total Cost	Discount	Final Cost
4	Computer	82,000.00	2	164000	10%	157440
5	Scanner	28,000.00	1	28000	4%	26880
6	Lase Printer	13,000.00	1	13000	5%	12350
7	NT Router	5,600.00	1	5600	3%	5432
8	UPS	4,500.00	3	13500	2%	13230
9				Grand Total		215332

15. What is the formula used to calculate the total cost in cell D4?

- 1) =B4*C4
 2) =(B4:B8)
 3) =B4:B8
 4)=B4*E4

- 1) What is the range of cells used to find total selling of all three drinks in Colombo?
 - 2) Write the function to be written in cell E3 to find the total sales using that cell range.
 - 3) If a formula with a single function is used to find the equation, write the required function if it uses a formula with a single function.
 - 4) What is the formula that contains the single function that D9 should use to get the sum of all the cities?
 - 5) Write the methodology used to find the percentage of Colombo district relevant to the total in cell F3. (Percentage = Total of Colombo District / Total of All Cities * 100)
 - 6) Write the formula that contains the single function used to find the most sold value of a drink called Ginger.
 - 7) Name two charts that can be used to draw a chart using drinks and cities
2. The following is a part from an e-spreadsheet with the number of students enrolled in a school for Grade 6 in 2017.

	A	B	C	D	E
1	Grade 6 Statistics Data-2017				
2	Grade	Female	Male	Total	
3	6A	21	19		
4	6B	18	22		
5	6C	20	20		
6	6D	19	21		
7	6E	22	18		
8	6F	24	16		
9	6G	17	23		
10					

- 1) Write the formula / function to find the total number of students in grade 6A in cell D3
- 2) Write the order of action to be taken to find the total number of students in grade 6 in cell D10
- 3) Write the function to find the total number of girls in cell B10
- 4) Which type of chart is best suited to graphically show the percentage of males female?

3. The details of the fruits sold by a fruit seller are shown in the electronic spreadsheet below.

	A	B	C	D	E	F
1	Fruit	Buying price	Selling Price	Fruits sold	Income	
2	Apple	15		25		
3	Orange	20		30		
4	Mango	12		28		
5	Pineapple	40		12		
6	Guava	10		32		
7						
8	Profit	5				

- 1) If you are selling with a profit of Rs. 5 per fruit (Noted in cell B8.), write the formula in cell C2 to get the selling price of each type of fruit in column C.
 - 2) Write the formula to be written in cell E2 to take the income from each fruit in column E.
 - 3) Write the required function to get the total revenue to cell E7
 - 4) Name the two software that can be used to prepare the spreadsheet above
4. Below is a section of the September 2014 monthly payment slip.

	A	B	C	D	E	F	G
1	Monthly Bill For September 2014						
2	***Interest for late payment per one day is: 5% of Amount ***						
3							
4	Description	Due Date	Date Paid	Amount Due	Amt.Paid	No.of days Delayed	Interest for late payment5%
5	Internet Broadband	9/5/2014	9/10/2014	2500.00	2500.00	5	625.00
6	Mobile Phone	9/15/2014	9/15/2014	550.00	550.00	0	0.00
7	Rent House	9/30/2014	9/30/2014	8000.00	8000.00	0	0.00
8	Credit Card	9/15/2014	9/10/2014	2000.00	2000.00	0	0.00
9	Car Insurance	9/12/2014	9/17/2014	5000.00	5000.00	5	1250.00
10	Electricity Bill	9/10/2014	9/5/2014	1200.00	1200.00	0	0.00
11						total Interest	1875.00
12		Total Due Amount Due		19250.00			
13		Total Paid amount		19250.00			
14							

- 1) Write a function that can be used to find the "total amount" in cell D12 in the spreadsheet above.
- 2) Write a function to find the "total amount paid" in cell E13 in the spreadsheet above.
- 3) Write a function that can be used to calculate interest on late payments in cell G5 (Payment is 5% per day)
- 4) Write down the function required to calculate the number of days due. (Calculate the time range from the due date to the paid date. If the payment is made before the due date, consider the number of late days as 0)

5. Consider the following worksheet based on data taken from a census report issued by the Department of Census and Statistics, Sri Lanka

	A	B	C	D	E	F	G	H
1	Kegalle District Population Report							
2	Divisional Secretariat	Gender		Age			Total population	Female percentage
3		Female	Male	Under 15 years	15-59 years	Over 60 years		
4	Kegalle	47,239	43,255	21,031	54,955	14,508	90,494	52%
5	Galigamuwa	38,508	35,434	17,922	44,838	11,182	73,942	52%
6	Warakapola	58,502	54,081	22,080	75,505	14,998	112,583	52%
7	Ruwanwell	32,822	30,491	15,481	38,182	9,650	63,313	52%
8	Bulathkothupitiya	24,471	22,342	11,798	27,872	7,143	46,813	52%
9	Yatiyanthota	31,388	29,323	15,650	36,215	8,846	60,711	52%
10	Dehiowita	41,913	39,528	20,680	49,631	11,130	81,441	51%
11	Daraniyagala	23,460	22,019	11,388	27,488	6,603	45,479	52%
12	Total Population	298,303	276,473	136,030	354,686	84,060	574,776	52%
13	Maximum							
14	Minimum							
15	Source: http://www.statistics.gov.lk							

- 1) Write a formula to show the total population of Kegalle Divisional Secretariat in cell G4.
- 2) Write the formula needed to show the percentage of women in the Deraniyagala Divisional Secretariat as a percentage of the total population of that area in cell H11 (Number format in cell H11 formatted as PERCENTAGE).

Female Percentage = Female Population / Total Population

- 3) Write the required function to get the highest population in the age group of 15-59 years in Kegalle District
- 4) Write the function required to obtain the lowest total population from the Divisional Secretariat Divisions of Kegalle District
- 5) Suggest a chart type of spreadsheet software that is best suited to compare the total population distribution of a divisional secretariat on a single graph.

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Unit 08

Powerpoint

1. What is electronic presentation?

.....

.....

2. Name 03 software that can be used for presentation.

.....

.....

3. Name three features of a quality presentation.

.....

.....

4. Write the name of the View Icons below in the space provided.



1)



2)



3)

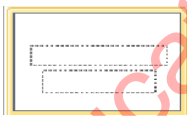


.....

5. Fill in the blanks.

- 1) We can getwith the Ctrl + M combination.
- 2) Changing from one slide to another is known as
- 3) Adding visual covers to Image, Text, Chart etc. is called
- 4) By pressing the F1 key we can get
- 5) We useto view all the slides in a presentation from the same screen.

6. Write the name of the Layouts below.



1).....



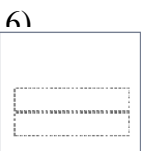
2)..... 3).....



4).....

5).....

6).....



7).....

8).....

9).....



10).....



11).....



12).....






13).....

Multiple Choice Questions

1. Which key combination can be used to open a new presentation when another presentation is open?

1) Ctrl + N 2) Ctrl + M 3) Alt + N 4) Alt + N

2. Consider the following icons and their functionality.

A.		(From current slide)
B.		(Slide show)
C.		(From Beginning)

The correct combination /combinations are

1) A only 2) B only.
2) A and C only. 4) A,B, C all.

3. What is not a common feature of presentation software?

1) Provide an opportunity to organize information systematically.
2) Allowing the presenter to perform more tasks with less labor.
3) Provide the opportunity to organize the hardware systematically.
4) Provide opportunity to set up and present a live presentation.

4. Consider the following statements.

A- E-presentation can be included with various software-generated ClipArt.

B- You can add different colors, shapes, pictures or graphics to the background of a slide.

C- Animations can only be inserted into text formats and graphical formats included in a slide.

What is correct of the above statements?

1) A only. 2) B only. 3) A and B only. 4) B and C only.

5. Consider the following clauses related to the slide layout of an e-presentation..
- A- Spelling and language applications must be correct.
 - B- The presenter's purpose should be to communicate well with the audience.
 - C- The slides should be very simple so that the reader can easily understand the content.
- 1) A only. 2) B and C only.
3) A and C only. 4) A, B, C all.
6. Where would you insert your photo If you want an e-presentation to include it in every slide
- 1).Handout Master 2) Slide Master
3) Task Pane 4) Slide Pane
7. Consider the following clauses regarding presentation software.
- A- You can set up a new presentation by pressing Ctrl + N.
 - B- You can display the next slide by pressing the N key during a slide show.
 - C- You can print the next slide by pressing the P key during a slide show.
- Which of the above statements is true?
- 1) A and B only. 2) A and C only.
3) B and C only. 4) A,B and C all.
8. Which of the following statements about presentation software is correct?
- 1) The maximum number of slides available per presentation is 50.
 - 2) You can apply more than one animation to a single item in a slide.
 - 3) The F5 key is used to run the presentation.
 - 4) You cannot insert 2 videos into one slide.
9. What is not an advantage of using an electronic presentation.
- 1) The bond between the audience and the presenter increases.
 - 2) Viewers can be provided with a better explanation.
 - 3) Computers and equipment must be used to do the presentation.
 - 4) Can get the audience's attention well.
10. Consider the following statements about choosing a Slide Sorter View in an e-presentation software.
- A - All slides are shown small.
 - B - The selected slide is displayed in the full window.
 - C - Allows you to rearrange the slide sequence.
- What is correct of the above statements.
- 1) A only. 2) A and B only. 3) A and C only. 4) A, B and C all.

11. The fact/facts to be considered when creating a quality e-presentation is,

- 1) Font size
- 2) Proper use of spelling and language functions.
- 3) Using colours
- 4) Above all

12. What is indicated with the  symbol in a presentation software?

- 1) Normal view
- 2) Slide Sorter view
- 3) Reading view
- 4) Slide show

13. Nimal builds a presentation using electronic presentation software. Which of the following gives a description of the number of frames in the presentation and the number of the frame selected, etc.?

- 1) Title bar
- 2) Menu bar
- 3) Status bar
- 4) Task bar

14. Where would you enter your photo if you want to display the photo in a specific place in all the slides of the e-presentation you created?

- 1) Handout Master
- 2) Slide master
- 3) Task pane
- 4) Slide pane

15. Consider the following statements regarding a presentation software.

- A) Carrying the show forward by one slide in the middle of a slide show You can be done with the N key.
- B) The dedicated software F5 function key can be used to perform a slide show in a presentation software.
- C) Using the B key during a slide show allows to move to the previous slide of the slide show.

The correct statement/statements of the above are,

- 1) A only.
- 2) A and B only
- 3) A and C only
- 4) A,B and C all

16. The visual effects that occur when moving from one slide to another in an electronic presentation software are called

- 1) Slide Animation
- 2) Slide Show
- 3) Slide Transition
- 4) Slide Sorter

17. After changing the order of the slides in an electronic submission that has been processed and stored, needs to be stored under a different name. The most suitable action for that is.

- 1) File → Save
- 2) File → Save as
- 3) Ctrl +S
- 4) Above all

18. Consider the following statements related to presentation software.

- A - You can add a chart and an audio clip to a presentation.
 - B - You can use the tools in the presentation software toolbar to insert an equation into a presentation.
 - C - Animation class can automatically provides motion for a presentation application.
- Which of the above is true?

- A and B only.
- 2) B only.
- 3) A and C only.
- 4) A,B and C all.

19. Which view to be used if a selected slide to be displayed full screen in a presentation?

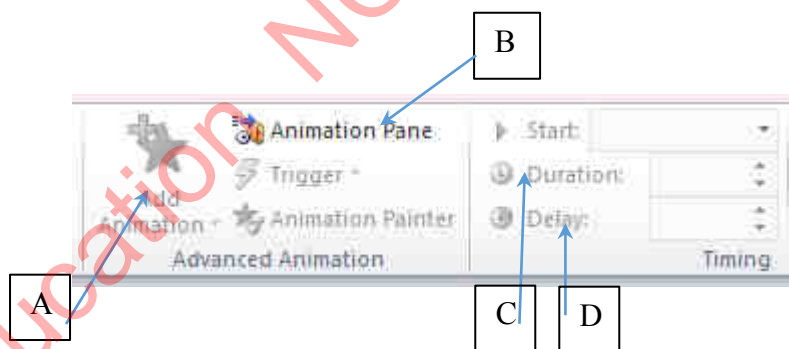
- 1) Normal view
- 2) Slide Sorter view
- 3) Reading view
- 4) Slide show view

20. What statement given below is wrong of a presentation software?

- 1) Animation can be added to elements contained in a slide.
- 2) Voice recording can be included.
- 3) Video clips can be inserted.
- 4) You can edit the audio clip.

Essay type questions

1) Consider the following tools in an electronic presentation software.



Write the letter in front of the sentence corresponding to the tool you are using to perform the following tasks.

- 1) To view all animations embedded in a slide
- 2) To delay an animation by a few seconds
- 3) To change the speed of an animation
- 4) To animate a an object in a slide

Chapter 09

Database

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1. What do you mean by a database?

.....
.....
.....

2. It is difficult to keep memorize when the amount of data increases. There are two ways to store data in these cases. Write down what is it ?

- 1)
2)

3. Briefly describe the six advantages of an electronic database compared to a manual database.

- 1)
2)
3)
4)
5)

4. The following are the database features. Explain with examples, how to improve quality of the database by Contenting those features into the database.

1) the Abstraction from data redundancy:

.....
.....
.....
.....
.....

2) The existence of the data consistency:

.....
.....
.....
.....

3) Increases efficiency:

.....

.....

.....

4) Increases accuracy:

.....

.....

.....

5) Increases validity:

.....

.....

.....

Security :

.....

.....

.....

5. When compared to the manual database, creating an electronic database and all audio and video media data can be easily stored in a very small storage medium. Write the suitable answer to the blank in the table below comparing the database and the electronic database.

Manual Database	Electronic Database
Less efficient	.....
.....	More reliability
.....	More accurate
Should present in the order of input	.....
.....	Easy to analyze data
Difficult to update data	.....
Difficult to delete unnecessary data	.....
More space is needed to save data	.....
.....	Less man power is needed

6. Fill in the blanks by selecting the suitable answer in parentheses

(**database / tables / table/ fields / a record**)

A collection of that contain data relevant to individual object or a person is called A collection of records is called a data A collection of related is called a relational

7. The student admission number is used as the primary key in the student information table which is in the electronic database used by the school. Since all the information in the school library is computerized, the principal can access the library information through this database when a student resigns.

1) What is the Primary Key?

.....
.....

2) Why the Primary Key is important for a data table?

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.....
.....

3) What are the features of the Primary Key?

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.....
.....

4) When a record in a data table does not have a uniquely identifiable column, the key formed by combining two or more identifiable columns is called a

5) Which key does build the relationship between the student information table and the library student table in above school?

.....

6) What are the features of a Foreign key??

.....
.....
.....

8. Re-entry of data in each column of the database is called data redundancy. Briefly describe the possible disadvantages in a database due to the data redundancy.

- 1)
- 2)
- 3)
- 4)
- 5)

9. A type of data related to one field is called a data type. Some of the commonly used data type shows in below a table. Select the description of the answer that corresponds to the sentence group in column A from column B of that table and write the corresponding English letter in the answer letter column in front of column A.

A	Answer letter	B
1. Numeric		A. Used to indicate monetary values..
2. Integer		B. indicates dates and time
3. Real		C. Consists of letters, numbers, or special symbols. Numbers are used but not used for the calculation.
4. Text		D. Used for calculations.
5. Currency		E. plus or minus whole numeric figures.
6. Date/Time		F. There are only two logical values as true and false.
7. Boolean		G. plus or minus numbers with decimal places.

10. Assuming you are tasked with creating a database table that including the data of your classmates to enter the school database, specify the most appropriate data type required to enter the information under the following fields

Field	Data type
1. Admission Number	
2. Student name	
3. Date of birth	
4. Amount paid for facility fees	
5. Average mark obtained from term test	
6. Are you registered with the school library?	

- 1) What is the appropriate field for the primary key in the table above. And explain the reason for selecting that field.

.....

.....

.....

- 2) Explain the importance with examples of selecting the most appropriate data type for a field.

.....

.....

.....

- 3) Write 5 fields you propose to include teachers data in your school database.

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11. Define a Database Management System (DBMS).

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.....

- 1) Briefly describe the objects in a database management system.

a) Table:

.....

.....

.....

queries:

.....

.....

.....

b) Forms :

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.....

.....

.....

c) Reports:

.....

.....

.....

12. Name the database management system softwares developed by various manufacturing companies and mention 05 manufacturing companies of that softwares.

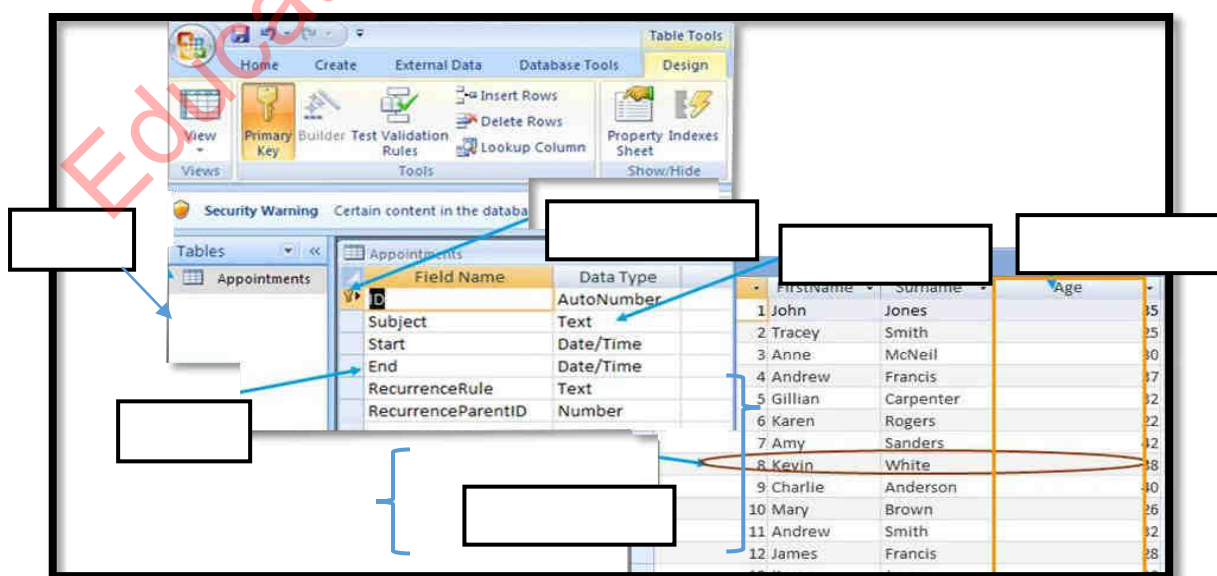
Software	Manufacturing company
1.	
2.	
3.	
4.	
5.	

Write 5 benefits of using a data management system in administrative activities of an institution.

- 1)
- 2)
- 3)
- 4)
- 5)

13. Fill in the blanks in the diagram below by selecting the appropriate words from parentheses.

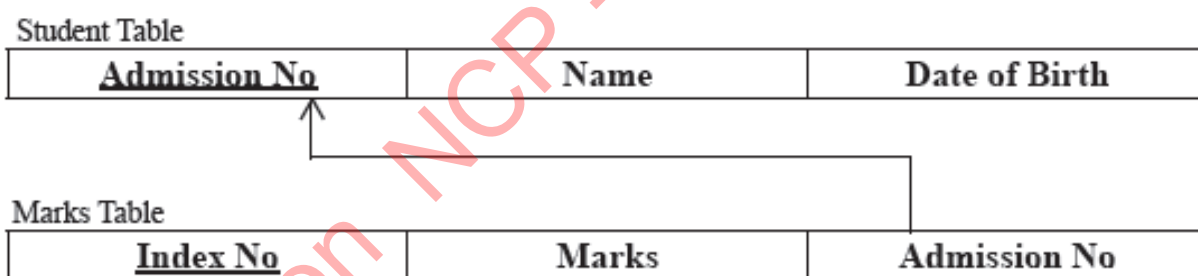
(Tables/ Fields /Records / Data types / Columns / Primary Key)



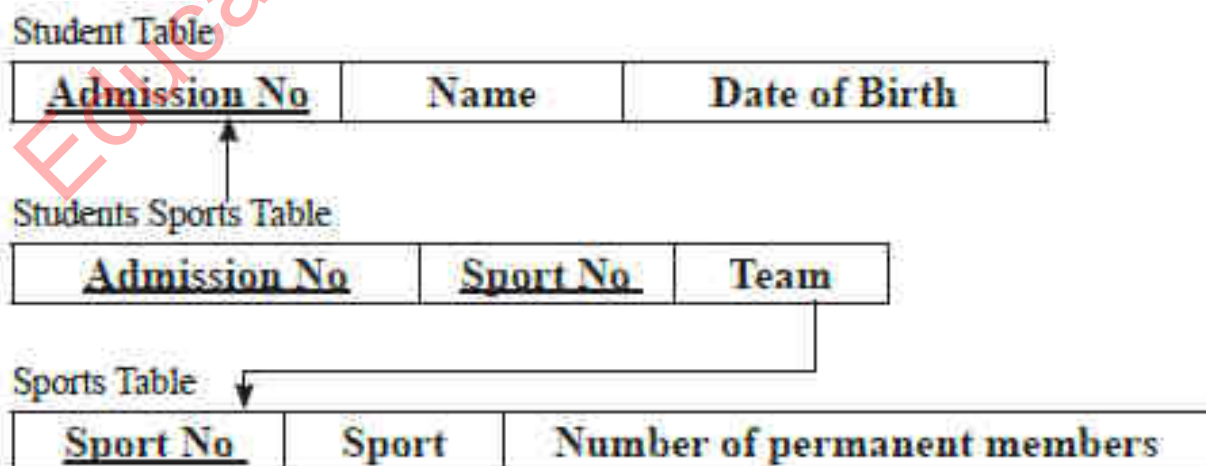
14. Tables must be interconnected when creating a relational database. There are three type of such relations can exist. Name those types and define them with examples.

- 1)
-
-
- 2)
-
-
- 3)
-
-

15. Write down the possible relationships between the tables relevant to the following table fields.



..... Relationship



..... Relationship

Summarized Mixed Activities

16. What are the issues with handling large amounts of data?

.....

.....

.....

Name the two open source database software among you learned.

- 1.....
- 2.....

17. Consider the following database table that used by a computer accessories shop.

Part_Num	Part_Name	Quantity	Unit_Price
001	Wireless Mouse	5	1,000
002	32 GB USB Flash Drive	20	3,000
003	Portable hard drive - 1TB	5	10,000

What is the name to call all the data related to one computer device in the table?

.....

18. The following is shown extract table from a database. Write the number of fields and records in it separately.

<u>StudentId</u>	firstName	lastName	courseId
L0002345	Jim	Black	C002
L0001254	James	Harradine	A004
L0002349	Amanda	Holland	C002
L0001198	Simon	McCloud	S042
L0023487	Peter	Murray	P301
L0018453	Anne	Norris	S042

Number of Fields

.....

Number of records

.....

19. Fill in the blanks using the answers given in parentheses.

- 1) Several related tables are defined as a A column in a table is called a A row in a table is called a A column (or a combination of columns) which enables to identify a record uniquely is called
- 2) If a field (or a combination of fields) of one table can be used to uniquely identify rows of another table, that field is called The foreign key builds of two tables. Re-entry of data in each column of a table is called
- 3) when storing data, if the same data is stored in several table it is called Types of data relevant to one field Is called
- 4) are used to entering and displaying data is used to extract the required information from the data in the interconnected tables. Furthermore, is used only for various calculations using fields in a database. The is used to present information.
(Data Redundancy/ Field/ Primary Key/ Forms/ Relationship/ Data Base/ Query/ Record/ Foreign Key/ Data Duplication/ Data type/ Report/ Query)

MCQ

1. What you need to do to arrange in order the contents of the database?

1) Field	2) Descending	3) Filter	4) Sort
----------	---------------	-----------	---------
2. What object is used to create a report in a database?

Table	Module	Form	Macro
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Which of the following statements is correct,

- A. Data can be duplicated by using only one table to store data.
- B. Data must be in the field that belongs to the primary key in a table.
- C. Re-entry of data in each field in a table is called as data duplication

- | | | | |
|------------|------------|------------|----------------|
| 1) A and B | 2) A and C | 3) B and C | 4) A , B and C |
|------------|------------|------------|----------------|

3. What is the disadvantage of using Memo instead of Text as a data type in a given field when creating a database,
 - 1) Ability to enter detailed data
 - 2) Reserving computer memory from unnecessary
 - 3) Ability to enter data without differentiating between capital and simple
 - 4) The validity of data can be improved by processing properties related to the Memo data type
4. Which of the following should be used to change the layout of form in a database?
 - 1) Design view
 - 2) Form Wizard
 - 3) Query view
 - 4) Layout View
5. What is the most suitable component for easy data entry in a database management system from the following components
 - 1) Queries
 - 2) Reports
 - 3) Forms
 - 4) Macros
- Consider the following table regarding the borrowing books for students from the school library. Answer questions 6, 7, and 8 accordingly.

Student_ Name	Book _Name	Author _Name	Telephone _No	Barrowing _Date	Receiving _Date
Saduni	Gamperaliya	Martin Wikramasighe	0775252021	2020.02.23	2020.03.05
Kisali	kuda hora	Sibil Weththasinhe	0715841239	2020.02.23	2020.03.05
Ruchira	Java	J. Pathirana	0714554550	2020.03.01	2020.03.11
kisali	Flash	A.B. Janaka	0764789103	2020.03.04	2020.03.14
Nadun	Programming	M.A.Perera	0778524136	2020.03.05	2020.03.15
Nadun	Flash	A.B. Janaka	0778524136	2020.03.05	2020.03.15

6. According to the data in the table above,
 - 1) All member details are duplicated.
 - 2) Members' details and borrowing dates of books are duplicated.
 - 3) All member details and book names are duplicated.
 - 4) All data in the table are duplicated.
7. Which of The following statements are incorrect statement of preventing duplication of data in the table above,
 - 1) Primary key is used to uniquely identify the records in a table.
 - 2) A field in a table can be used to identify uniquely the rows in another table by applying foreign key
 - 3) Maintaining abstraction from data redundancy.
 - 4) Maintaining data redundancy.

8. The information of an individual person included in a database is,
- 1) Record
 - 2) File
 - 3) Field
 - 4) None of the above
9. Which of the following statements is incorrect?,
- 1) A foreign key is required to build a connection between tables.
 - 2) Database table may have several foreign keys.
 - 3) A foreign key is always associated with the primary key in another table.
 - 4) When inserting new records into tables, the data must first be entered into the table where the foreign key is located.
10. Which of the following can be done by queries?
- 1) Ability to prepare records'
 - 2) Display from separating the data contained in the tables.
 - 3) Ability to perform calculations'
 - 4) All of the above.
11. Which of the following is not a database management software?
- 1) Oracle
 - 2) Keynote
 - 3) Fox Pro
 - 4) Access
12. AX..... is the unit information of aY..... The most appropriate words for X and Y is,
- 1) Database/ Table
 - 2) Field/ page
 - 3) Field/ record
 - 4) Primary key/ foreign key
13. Which of the following can be used to call a single column in a database table?
- 1) Data
 - 2) Field name
 - 3) Record name
 - 4) Data type
14. Which of the following is not a true regarding a database,
- 1) Retrieving information efficiently.
 - 2) Data can be analyzed efficiently.
 - 3) Ease of obtaining copies.
 - 4) Requires a large amount of space for the storage.
15. What is the relationship between the item table and the customer table according to the following figure?



- 1) One-to-one Relationship
- 2) One-to-many Relationship
- 3) Many-to-many Relationship
- 4) None of the above.

16. The result that can be obtained by using the query below

Field:	Customer Name	Item Type	Purchased Quantity
Table:	Customer	Item Table	Purchase
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			
or:		"Book"	>2

- 1) Displays customer names that purchased more than 2 books
- 2) Displays customer names that purchased more than 2 books and the purchased quantity
- 3) Displays the type of item that purchased more than 2 books and the purchased quantity
- 4) Displays customer names that purchased more than 2 books, the type of item and quantity purchased.

17. Which answer shows the appropriate data type for the fields shown in the table below?

Field	Values
St_ID	A001
Is paid	<input checked="" type="checkbox"/>
Amount	Rs. 10000.00
Average Marks	85

- 1) Number, Boolean, Currency, Number
 - 2) Text, Boolean, Currency, Number
 - 3) Text, Number, Currency, Number
 - 4) Number, Boolean, Currency, text
18. In a database, if the primary key in one table is used as a field in another table ,which name is used to call it in that table,
- 1) Foreign key
 - 2) Composite Primary Key
 - 3) Record
 - 4) index
19. Which of the following is a open source database software?
- 1) Oracle Database
 - 2) Microsoft Access
 - 3) Libre Office Base
 - 4) dBASE III+

Essay Questions

1. Following shows a section of a database in an educational institution and that shows lecturers, students and courses details.

Student				Course		
Stno	Sname	Contact	City	Course	Fee	Lec_id
St023	Divyani	0112343472	Colombo	Java	Rs. 20,000	L021
St024	Gagani	0112345232	Kandy	Python	Rs. 30,000	L023
St025	Buupa	0117323432	Colombo	Pascal	Rs. 15,000	L023

Student_Course				Lecturer	
Stno	Course	Day	Time	Lec_id	Lecname
St023	Python	Monday	8 am	L021	Mr. Ganesh
St023	Java	Wednesday	10 am	L023	Mrs. Perera
St024	Pascal	Tuesday	10 am	L041	Mr. Kosala
St024	C++	Tuesday	2 pm		
St025	Java	Friday	8 am		

- Why the Primary Key is important in a database table?
 - Mention a composite primary key that you can see in this database.
 - Specify the appropriate data type for the course fee, course date and course duration.
 - The database administrator states that "the security of the database can be increased by applying a security mechanism to the data." Explain this briefly by giving examples.
 - According to this database, write the type of relationship between the Lecturer - Course tables.
 - In the early days, people were tempted to use a single table instead of relational databases and at that time data duplication was high. Write down two disadvantages of data duplication.
2. A wholesaler is maintained a database for his suppliers and the items they supply. Below are some tables related to that database.

Suppliers Table

Supplier_code	Name	Contacts
Sup_1	Bandara	0715554123
Sup_2	Perera	0778965412
Sup_3	Nimal	0765231001
Sup_4	Saman	0714545120

Item Table

Item_code	Item	Unit_Price
A001	Lunch Book	25
A002	School Bag	50
A003	Pen	200
A004	CR Book	60

Supply Table

Supplier_code	Item_code	Supplied_date
Sup_1	A001	2020/5/25
Sup_2	A002	2020/6/25
Sup_4	A001	2020/7/1
Sup_4	A003	2020/7/5
Sup_3	A003	2020/7/6

- Mention the number of fields and records in the item table.
- Mention the most suitable field for the primary keys in all three tables along with the table names in separately.
- Mention two fields for foreign keys with names in the relevant tables.
- Sunil is a new registrant for supplies. He supplied the CR Book on 7/7/2020. His phone number is 1761245780. In entering his information into the database,
 - Which table / tables are updated here?
 - Show relevant table updates.
- Mention the relationship between the following tables.
 - suppliers table - supply table
 - supply table - Item table

Sample Answers

- Visit www.edncp.lk for all sample answers

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