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மாகாணக் கல்வித் திணைக்களம் - வட மத்திய மாகாணம்

DEPARTMENT OF EDUCATION – NORTH CENTRAL PROVINCE



Information & communication Technology Student Activity Book

Model Answers

Grade 11

1. Programming

1. Inputs → Process → Output

2. Problem – Making a Kite

Inputs - Glue, String, Sticks, Tissue papers

Process - 1) Line up and tie the structure with string

2) Cutting tissue papers

3) Pasting tissue papers on the structure.

Output - Creating a flying kite

3. Problem – Telling who is overweight

Inputs - First person's weight, Second person's weight

Process - 1) Measuring the weight of first person

2) Measuring the weight of second person

3) Finding the overweight person when comparing weight of two persons

Output – The overweight person

4. Grinding grain in a blender.

Inputs - Grain , Blender

Process - 1) Adding the grain to the blender jar.

2) Closing the lid of the jar

3) Activating the blender switch

4) If the grain is not chopped enough, going back to the third step

5) Turning off the blender switch shortly

Output - Grinding flour

5. If there is more than one solution to a given problem, such solutions are called alternative solutions.

6. All the solutions pertaining to a problem are called solution space.

7. First solution

Perimeter = (length + width) x 2

Second solution

Because the legs of a square are all the same

Perimeter = length x 4

8. Inputs – Entering age

Solution 1 – If age ≥ 18 , he is a voter otherwise he is not a voter.

Solution 2 – If age < 18 , he is not a voter otherwise he is a voter .

9. An algorithm is a method to show the steps in solving a problem.

10. 1) Sequence - If the steps from the beginning to the end of an algorithm are carried out in a strict order, it is called a sequence.

2) Selection - Selection is a situation where step(s) are executed depending on whether a condition of an algorithm is satisfied or not.

3) Repetition - If one or several steps of an algorithm are repeated until a condition is satisfied, it is called repetition.

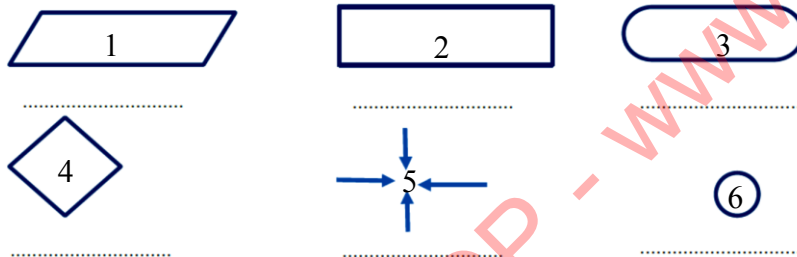
11. 1) C 2) A 3) C 4) B 5) B

12. Flow chart

Pseudo codes

13. . Representing in a graphically.

14. .

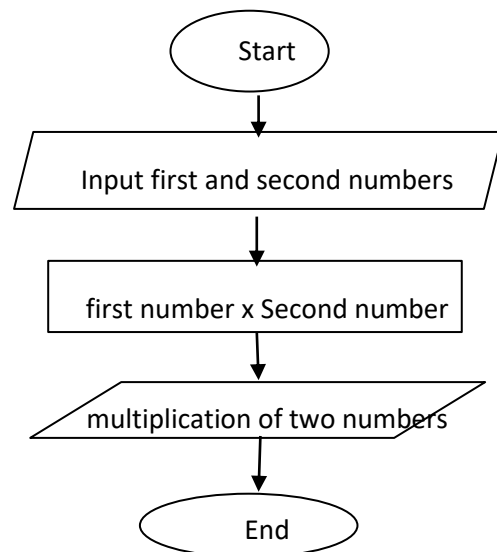
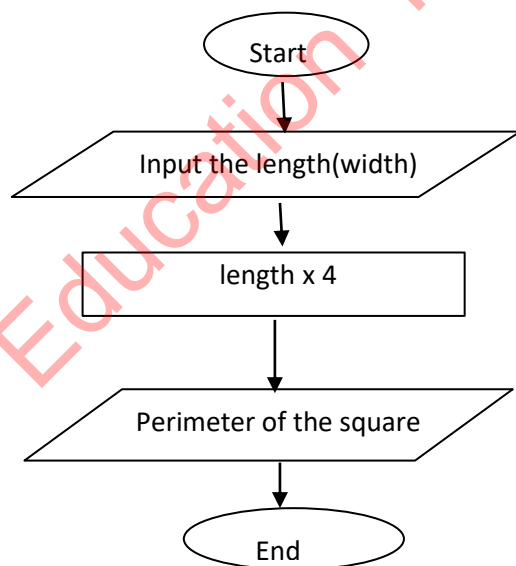


1. Input or Output
2. Process
3. Start or end
4. Decision
5. Flow direction
6. Connector

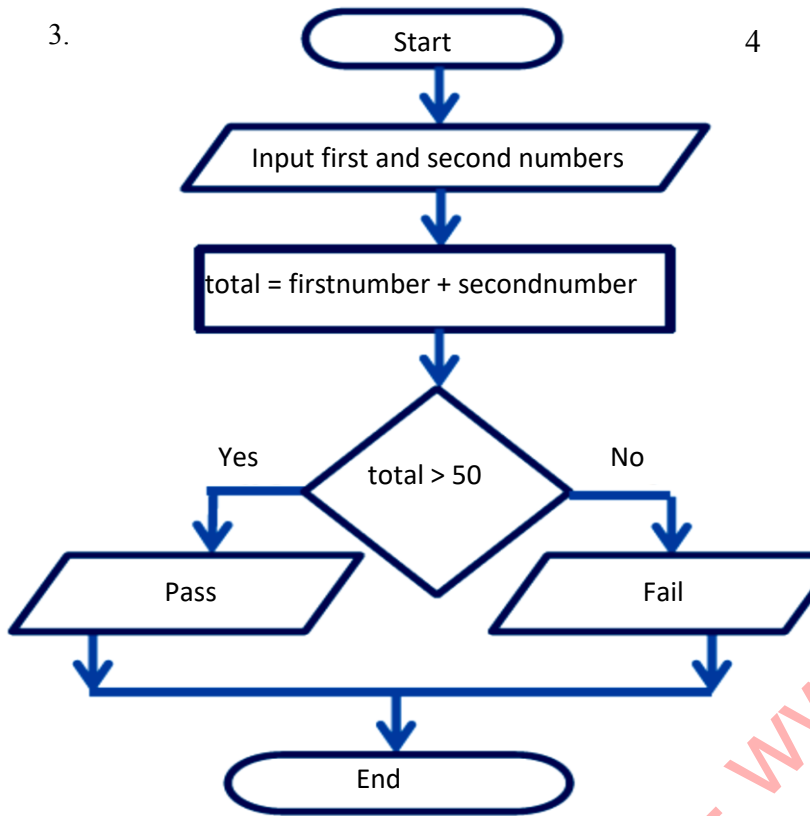
15.

1. Finding the perimeter of a square

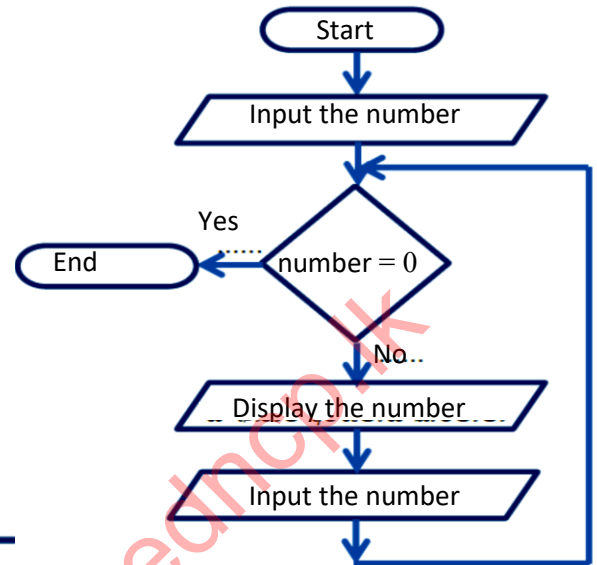
2. Showing the multiplication of two numbers



3.



4.



16. Pseudo-codes are the written form in which an algorithm is represented.

17. Input - INPUT

Process - PROCESS, CALCULATE

Start - BEGIN

End - END

Output - OUTPUT, DISPLAY

Repetition - FOR – DO, WHILE – ENDWHILE, REPEAT - UNTIL

Selection - IF...THEN...ELSE...ENDIF

18.

1. Find the perimeter of a square.

BEGIN

INPUT length

CALCULATE perimeter = length X 4

DISPLAY perimeter

END.

2. Showing the multiplication of two numbers

BEGIN

INPUT first_number, second_number

CALCULATE multiplication= first_number X second_number

DISPLAY multiplication

END.

3.

BEGIN

INPUT first_number, second_number

CALCULATE total = first_number +

second_number

IF total > 50 THEN

DISPLAY "PASS"

ELSE

DISPLAY "FAIL"

END.

4.

BEGIN

INPUT number as N

REPEAT

DISPLAY N

INPUT N

UNTIL N = 0

END.

19. An identifier is a term used to represent a variable, constant or a program

20.

- Reserved words in Pascal cannot be used.
- Should start with an English letter.
- There should not be any space between words.
- Can not have The special characters.
- Only the underscore (_) can be used.
- Not case sensitive.

21. 2 Marks, Stu name, Your#name, My-no, Begin

22. integer – 564,67

Real – 45.678, 0.34

Boolean – true, false

Char – 'A', '8','&

String – 'information', 'my country'

23. A variable is an identifier which changes the values given to it when the program is being executed.

24. Create a variable called X that can store plus or minus whole numbers.

Create a variable called Y that can store plus or minus decimal numbers .

Var St_name: String;

Var R : Boolean;

25. Algebra operators, Comparison operator, Logical operators

26. Algebra operators

Logical operators

Algebra operators

Comparison operator

27. 1) $7 + 24 / 3 = 15$

2) $30 \text{ DIV } 7 + 2 > 7 = \text{FALSE}$

3) $(4 < 6) \text{ AND } (6 > 8) = \text{FALSE}$

4) $5 < 30 \text{ MOD } 8 = \text{TRUE}$

28.

Column A	Column B
Begin	Output the message "Enter Width" and input the value entered by the user to the variable B
Program Area;	End of the main program
Writeln('Area is ', C);	Create 3 variable named A, B, C that store integers.
Writeln('Enter Length'); Readln(A);	Beginning of the main program
End.	Output the message "Enter Length" and input the value entered by the user into the variable A.
C:=A * B;	Start a program called Area
Writeln('Enter Width'); Readln(B);	Output the value of variable C with the message "Area is"
Var A,B,C:integer;	Multiply the value of variable A and the value of variable B and store it in variable C.

29.

1) Program Hello;

2) Progarm My_self;

3) Progarm Schhol;

4) var x: integer;

5) var a,b,: real;

6) var name,village: String;

7) Writeln('Hello,how are you?');

8) Writeln (x);

9) Writeln ('Answer is ', x);

10) y:= a+b;

30. Problem – Adding two numbers.

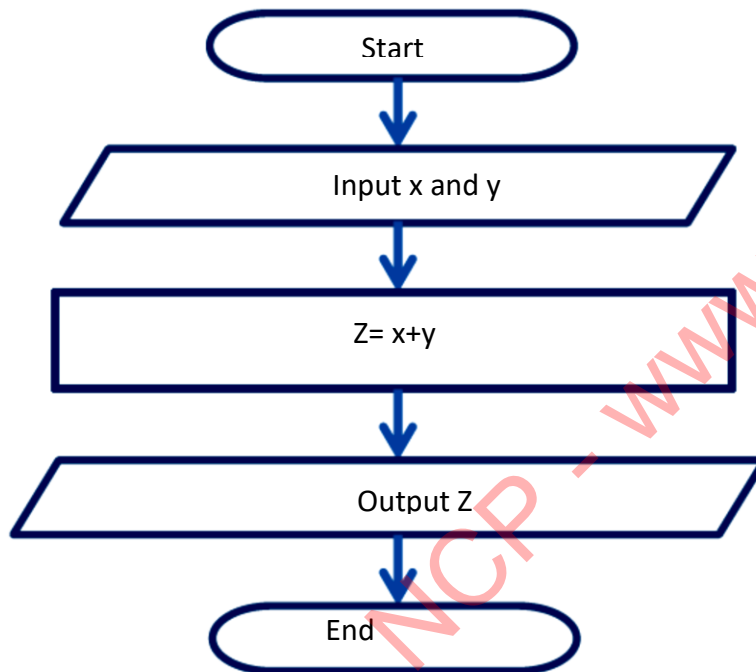
Input – Put the first number in the basket X.

Put the second number in the basket Y.

Process- Add the values in the x and y baskets and place them in the bask z

$$Z=x+y$$

Output - The sum of the numbers in the x and y baskets.



BEGIN

INPUT X and Y as numbers

Z = X+Y

DISPLAY Z

END.

Program ADD;

Var X,Y,Z: integer;

Begin

Writeln('Enter first number');

Read (X);

Writeln('Enter second number');

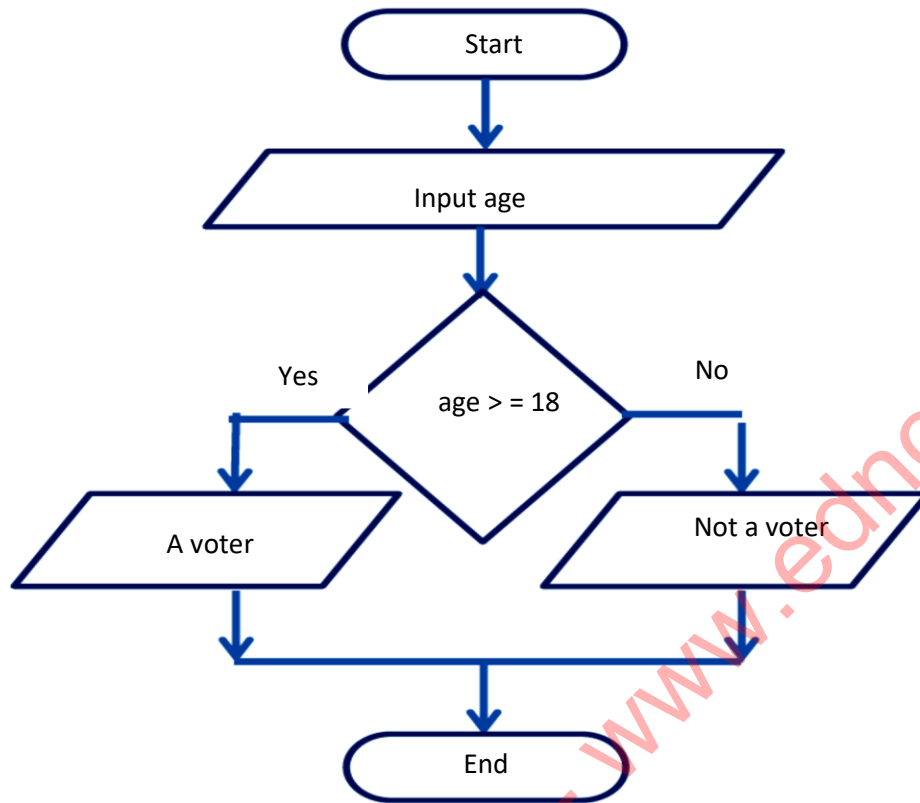
Read (Y);

Z:= X+Y;

Writeln(Z);

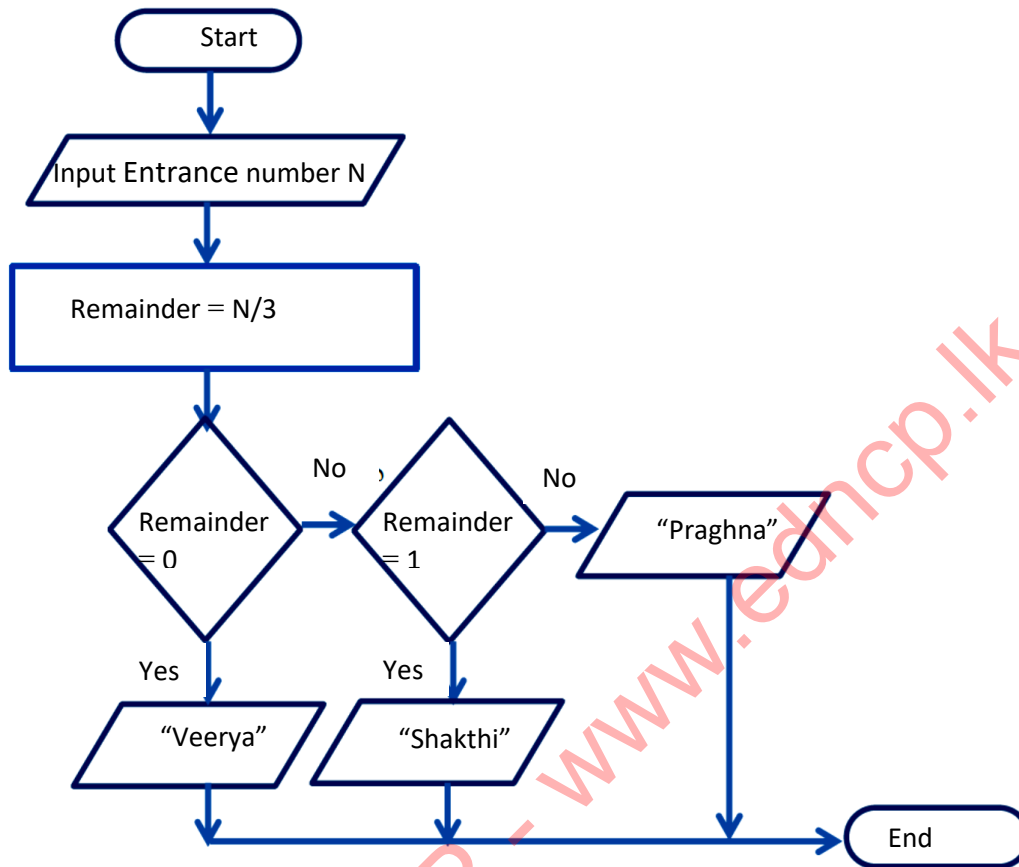
End.

31.



BEGIN	Program Voter;	
INPUT Age	Var	Age: integer;
IF Age >= 18	Begin	Writeln ('ENTER YOUR AGE ');
THEN		Read(Age);
DISPLAY " YOU ARE A VOTER"		If Age>= 18 Then
ELSE		Writeln ('You are voter');
DISPLAY "YOU ARE NOT A VOTER"		Else
End.	End.	Writeln('You are Not voter');

32.



BEGIN

```

INPUT index number as N
Remainder = N/3
IF N=0 THEN
PRINT "Veerya"
ELSE IF
N=1 THEN
PRINT "Shakthi"
ELSE
PRINT "Praghna"
END IF
END IF
    
```

END.

Program House;

```

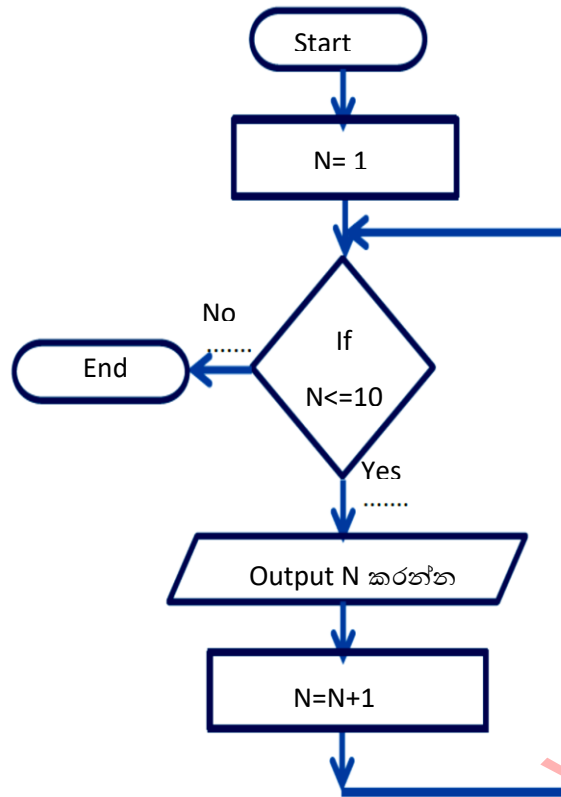
Var      EN,R:integer;
Begin
    
```

```

Writeln('Enter Entrance Number');
Read(EN);
R:= EN/3;
If R=0 Then
Writeln ('Weerya House');
Else
If R=1 THEN
Writeln ('Shanthi House');
Else
Writeln ('Praghna
House');
    
```

End.

33.



BEGIN

N=0

WHILE n<=10

DISPLAY N

N=N+1

ENDWHILE

END.

Program Number;

Var N=integer;

Begin

N:=1;

While N<=10 Do

Begin

Writeln(N);

N:=N+1;

End;

End.

34. Source code , Binary code

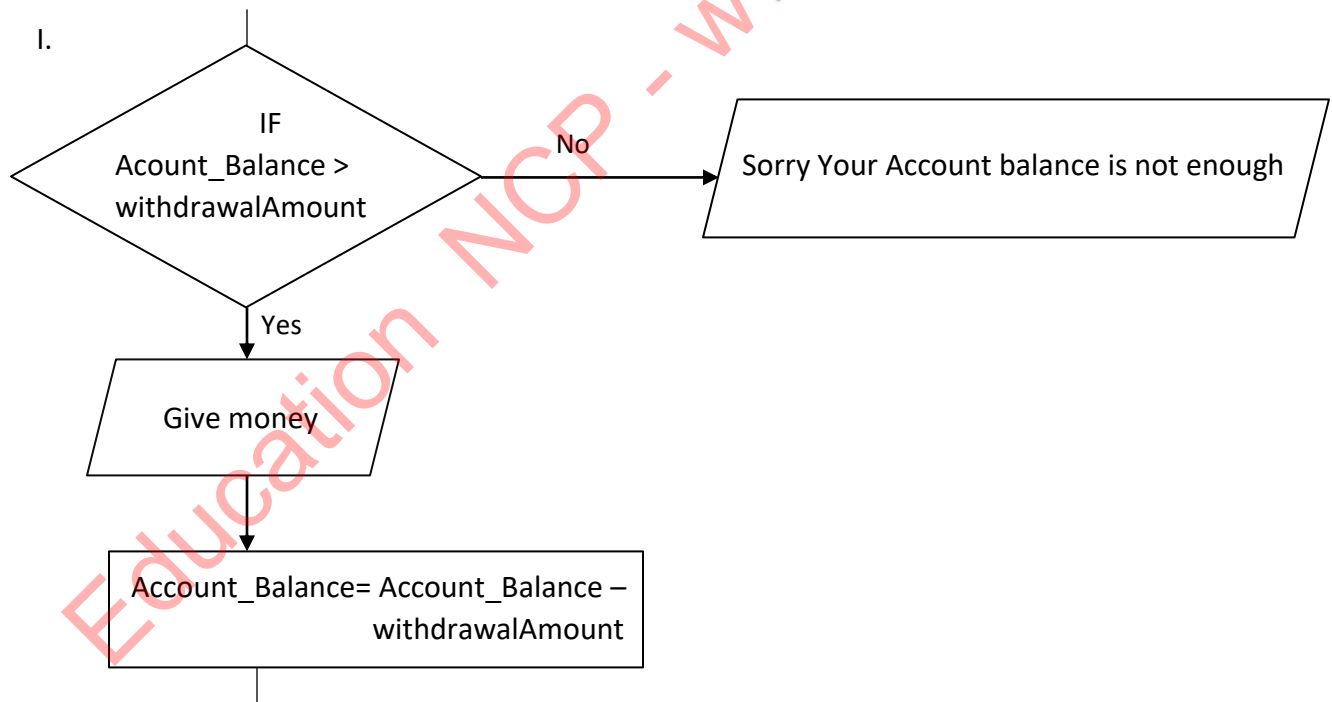
35. Compiler translates the entire program written in a high level language to machine language as a whole, before it could be executed. And interpreter translates each statement written in a high-level computer language to machine language commands one by one and the translated program is executed using the necessary commands instantly.

MCQ

1	I
2	II
3	II
4	II
9	III
10	II
11	I
12	I
13	II
14	IV
15	II
16	III

Essay Questions

1. I.

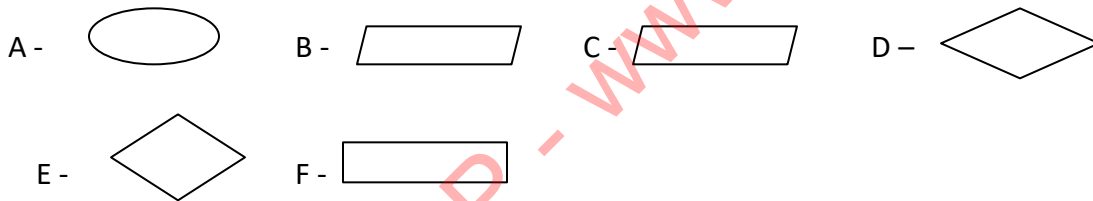


- II.
- A= No
 - B= yes
 - C= no
 - D=Not qualified
 - E= yes
 - F= Qualified

2. BEGIN

```
Count=0
Get number of villages as n
WHILE
    Is count < n
    Get Villagers name as SName, Weight, Height
    BMI = Weight / (Height X Height)
    IF BMI < 18.5 THEN
        DISPLAY SName, "is low weight"
    ELSE
        DISPLAY SName, "is not low weight"
    ENDIF
    Count=count+1
ENDWHILE
END.
```

3.



4. I)

A – start
B – Enter www.facebook.com
C – Display account
D – Enter email Id and password
E – log in error
F – Is Email ID and password correct?
G – Face book home page
H – yes
I – no
J – stop

II) Facebook home page

III)

- a) 108
- b) 110

5. I) A- Displaying error messages

B – Are the relevant barcodes in the file?

C – Inclusion of the price of the item in the bill.

D – Rejection of the relevant

E – Are there other barcodes?

F – Update item file

G – Show the bill

II) Selection, Repetition

III) P – String

Q – Readln

R – Average

S – End.

Education NCP - www.edncp.lk

2. System Development Life Cycle

- 1.
- I. A system is a collection of components that interact to achieve a specific task.
 - II.
 1. ✓
 2. ×
 3. ×
 4. ×
 5. ✓
 - III. A. Input B. System C. Interactions D. Output

2. Input, Process and Output

3.

Input	Process	Output
Collecting letters	Selecting of letters according to the recipient's address	Sending to the relevant area
Accepting the electricity bill and cash and input the account number and amount into the computer system	Addition and calculation of the amount to the electricity consumer's account	Giving the hard copy to the customer

4.

- I.
 - Enter ATM Card and Pin number
 - Making the transaction / Calculation
 - Giving money /Show balance/ Providing a hard copy
- II.
 - Reflected light / light
 - Photo editing by the camera's operating system
 - Display the photo on the camera screen and store it in storage
- III.
 - Employment Number /Name, Basic salary/ Daily salary, Number of days visited / Deduction
 - Preparation the monthly salary according to the instructions given to the system
 - Salary Description /Pay sheet
- IV.
 - Input Bar code
 - Preparing information that related to the bar code
 - Input the information to another related system

5. A system which converts data into Information is known as information system.

I. Data → Process → Information

II.

1. Manual Information System
2. Computer Based Information System

6.

I.

Any 3 of the following answers - Inefficiency, Large space required to store the data, Need more staff, Decreased mental satisfaction of employees and having to do all the work by hand

II. The most efficient school is A.

School A	School B
Some data may be automatically processed before entering (Index number)	At That moment must be handwritten
Errors that can occur during data entry can be corrected quickly since errors can be detected automatically (Number of digits in the phone number)	Errors do not show up automatically at that point, so it takes extra time to correct
The tired is the lower since the higher the mental satisfaction of the employees who use the system .	The tired is the higher since the lower the mental satisfaction of the employees who use the system

III.

1. An information system consists of hardware, software, users, procedures, data and information, and computer networks. A learning management system also consists of all the above elements.
2. The process of an information system consists of three stages: data input, information output and data processing, and the above process is also found in a learning management system.

7.

I.

1. Identification of Requirements
2. Designing the Solution
3. Coding the solution
4. Testing and Debugging
5. Deployment of the System
6. Maintenance of the System

II.

1. Designing the Solution
2. Coding the solution
3. Identification of Requirements
4. Testing and Debugging

5. Deployment of the System
6. Maintenance of the System

III.

1. Observations
2. Interviews
3. Questionnaires
4. Document sample collection

IV.

The Field system is used
The size and role of the system
Language facility to execute the plan
Facilities to maintain the system

V.

1. Unit Testing
2. Integrated Testing
3. System Testing
4. Acceptance Testing

VI.

1. Integrated Testing
2. Unit Testing
3. System Testing
4. Acceptance Testing

VII.

- a. Prototype Model
- b. Waterfall Model
- c. Iterative Incremental Model
- d. Spiral Model

8.

- I. Examination of records and files, interviews, observation, 2 of them
- II. To add and update new member information to the system, enabling members to know of books that have been lending and books that are currently in the library, Managing Book Issues, Maintaining a document any two of them
- III. Input devices - Keyboard, Mouse, Barcode reader, Scanner
Output devices- Monitor, Printer
- IV. Identifying new requirements, correcting errors not identified during testing, changing user requirements and changing technology any two of them
- V. Computer Language - Visual Basic, Lazarus, VB.net
Reasons for the selection - Ability to easily prepared a GUI interface and easily managed the database

MCQ

1	II
2	III
3	I
4	I
5	IV
6	II
7	IV
8	IV
9	I
10	I
11	II
12	III
13	IV
14	IV
15	I
16	IV

Essay Questions

1. I.

Input – Electronic Identity Card

Process – Preparation of information related to electronic identity card

Output – Displaying the identity and time of entry into the institute / entering information into another system

II.

Observation, checking files..

III.

- Save time on system maintenance and testing.
- Saving cost of the system maintaining and testing.

IV.

- Waterfall model is suitable when you have a definite idea about requirement.
- Can be started next step after finishing one step completely.

V. In system test, The complete system is tested for its outputs for the given inputs. Risky situations here are concerned with interactions with operating systems.

The acceptance testing is carried out at system test. This testing is carried out at with the users of the system and the user is allowed to use the system. Either the user approves or request for more improvements.

2. I.

- checking if there is economically feasible to design a computer system.
- Focus on whether the new system can make operations efficient
- Focus on whether the new system can familiarize employees.

II.

- There is no need to more space for data storing
- Ability to ensure data security.

III. Parallel deployment

The new system has the ability to adapt by setting up the new system while activating the old system. If there is an error in the new system, there is not interfere with the activities of the organization by activating the old system.

IV.

- An improved system is developed by repeating a small portion at a time.
- System developers will be able to apply the knowledge they have acquired in previous steps.
- The system is being repeated and upgraded until fully developed.

3. I.

- Easy access to information when needed.
- No extra space for files to store data.
- Easy to update information when needed.
- Easy to bring to anywhere needed
- Ability to easily obtain the required number of copies of information

II. National Identity Card / Full Name

III. Applying passwords and Storage on a storage device.

IV.

- Having to maintain computer hardware, software, computer network.
- When new needs arise the system needs to be maintained for that.
- To increase efficiency by applying new technological advancements to the system

3. The Internet and the electronic mail

1. The Internet is a collection of computer networks around the world.
2. Arpanet
3.
 - Computer or a mobile device
 - Internet Service Provider (ISP)
 - Modem/Router/Dongle
 - Network interface card(NIC)
 - Browser
4. ..
 1. ✓
 2. ×
 3. ✓
 4. ✓
5. the system used to uniquely identify various resources in web sites is the Uniform Resource Locator (URL).

5.1 The parts of the URL

1. Protocol
2. World Wide Web
3. Domain name
4. Path where the resource is located
5. Resource

5.2

- I. <http://www.gov.lk>
- II. <http://www.nie.lk>
- III. <http://www.doenets.lk>
- IV. <http://www.ICTA.lk>

5.3 A

6. An Internet Service Provider (ISP) is a company and it provides access to Internet. For this, the ISP charges a fee for the service.

Example : Telecome ,Mobitel, Dialog

7.

- 7.1 Internet Protocol (IP) addresses are used to individually identify all the computers in the Internet.

Ex :- 193.213.78.154

- 7.2 These IP addresses are assigned by an Internet Service Provider (ISP).

7.3 The IP address is indicated in four values from 0 to 255 separated by a decimal point. This is represented IPV4 type address.

7.4 D

8.

8.1 Domain name gives an identity to all the websites which exist in the Internet. The domain at the right - most corner of a domain name is called the Top Level Domain. The domain name website is divided into two sections by field and country.

Example- edupub.gov.lk

According to above example , gov represents government and lk represents Sri lanka. . In here, gov is domain name and lk is top level domain name

8.2

According to field	
Domain	Field
com	Commercial
org	Non profitable organization
gov	Public
edu	Education
net	web

According to country	
Domain	Country
lk	Sri Lanka
in	India
au	Australia
jp	Japan
uk	United Kingdom
us	United States

8.3 Domain - ICTPanthiya.com - unicode.org
Top level domain - .com - .org

9.

9.1 (2) ,(1) ,(6) ,(5) ,(3) ,(4)

9.2 Uniform Resource Locator , IP address , Domain Name Server, IP address

9.3

9..1 www.alliancecom.net

9..2 66.115.210.3

10.

10.1 A protocol is a set of rules that work in computer networks.

10.2

- I. HTTP document exchange
- II. TCP/IP Controlling the exchange of IP addresses
- III. FTP File exchange
- IV. SMPT Electronic mail exchange
- V. ICMP Informing and controlling messages when there are errors

10.3

- I. Hypertext Transfer Protocol
- II. Transmission Control Protocol/Internet protocol
- III. File Transfer Protocol
- IV. Simple Mail Transfer Protocol
- V. Internet Control Message Protocol

10.4 (iii)

11. Client Computer

11.1

- Server computer - The computer that distributes the resources required by the client compute
- Client computer - The computer that receives the service from the server computer
- downloading - The activity of retrieving information from the server computers to client computers
- Uploading - The activity of providing information from client computers to server computers
- Web Server - Storing web pages and providing these to the client computers
- DNS Server - translating URL to IP addresses
- Mail Server - Storing electronic mail and providing them to the client computers
- DHCP Server - This is a network server and it provide ip address automatically and performs assign

11.2

- World Wide Web – WWW
- Electronic mail (E-mail)
- File Transfer protocol
- Remote Access
- File Sharing
- Streaming of media
- Search engines

12

12.1 Sir .Tim Berners Lee

12.2 World Wide Web is a service provided by the Internet and it is a large collection of electronic documents saved in computers all around the world connected to the Internet.

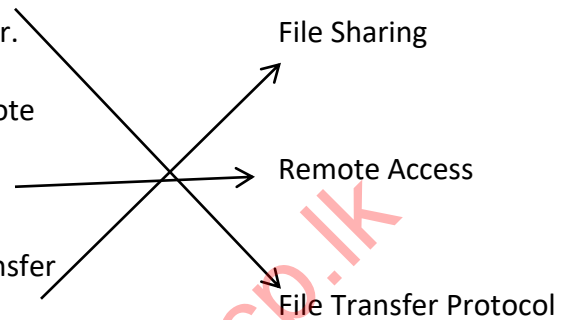
12.3 Home page

12.4

Part - A

- Used to transfer large files of one File Sharing Computer in the Internet to Another computer.
- Sometimes hackers steal important data Remote Access and information stored in computers without owner's knowledge.
- Thousands of users can be connected File Transfer Protocol to a website at the same time

Part - B



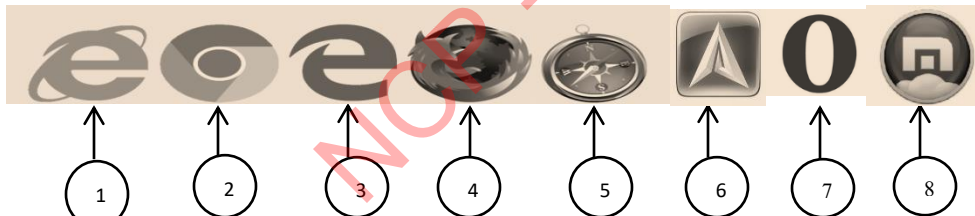
12.5 Hacking

- 1. Installing software of server computers to client computers
- 2. Fixing problems on client computers

12.6 (4)

13.1 A Web Browser is an application software and It facilitates the user to access the Internet.

13.2



- I. Internet Explorer
- II. Google Chrome
- III. Edge Browser
- IV. Mozilla Firefox
- V. Apple Safari
- VI. Avant Browser
- VII. Opera Browser
- VIII. Maxthon Browser

13.3 After entering the URL of the file requested by the user in the Internet service, it sends a request to the DNS server. DNS converts it to an IP address. After that send to the web server that has the IP address and transmits the HTML data stream to the web browser. But In multimedia supply, once the multimedia file requested by the user to be heard or viewed is forwarded to the multimedia server computer, it is not sent to the web server computer but directly sent to the client computer.

13.4

1. **A user** visits a Web page hosted on a Web server and finds a file he'd like to see or hear.
2. **The Web server** sends a message to streaming media Server, requesting the specific file.
3. The streaming server streams the file to the user's computer, bypassing the Web server.
4. **The client software** on the user's computer decodes and plays the file

14.

14.1

- Search engines are designed for the Internet users to find any information easily, It means systematically searching the World Wide Web for specific information in a text web search query.
- If we do not know the address (URL) of a web site then use search engine to find information easily. Because in here only need phrase. Search engines are designed to make it easy for users to find all the information they need out of the very large number of websites on the Internet.

14.2

<http://www.google.com>

<http://www.yahoo.com>

<http://www.ask.com>

<http://www.msn.com>

<http://www.bing.com>

15. The domain name system is the heart of the Internet. It converts the domain name to an IP address. If DNS is not used, you must remember the IP address of every website you visit. But remembering IP address is not easy. Domain Name makes the users remember somewhat easily than IP address.

All network servers (PCs, tablets, phones) act as DNS servers and the software they need is built to be able to use DNS. DNS servers store data and are primarily located on the Internet. Ex: your ISP (Internet Service Provider, Google, etc.).

16.

16.1. Electronic mail enables exchanging messages as electronic mails or files between two or more people.

16.2 vidyarthamv@gmail.com

User Name

Domain name

16.3 User name, Domain name

16.4 user name - ITPanthiya

16.5 2

16.6

To : The receiver's email address i

Cc : The email address of the others who should receive the copies of the email, The recipient can also see the addresses of other recipients

Bcc : (Blind carbon copy) Used to send copies, Email addresses listed under Bcc do not appear to the email addresses listed under To and CC. But BCC can view all email address listed under To and CC.

Subject : Title of the article

Attachment : Used for sending copies / attachments

Inbox : To store mails received

Draft : To store mails those are composed to be sent but could not be completed

Sent : To store mails sent

Trash/Deleted: - To store mails deleted

Spam : To store mails those are unwanted

16.7 Agree

Normal mail

- There is a charge
- will take some time
- Can be used within a specified time
- There is a definite position and a definite methodology
- extra cost for the attachments
- can not be confirmed to receive the letter

E-mail

- Internet fee only
- The fastest method of communication
- Can be used whenever needed anytime
- It is not necessary
- Any attachment can be sent as a soft copy
- can be confirmed to receive the letter

16.8 Anura sees that a letter has been sent to Kasun.

Sunil sees that a letter has been sent to Anura.

Kasun sees that a letter has been sent to ITPanthiya.

✓
x
✓

16.10 Places have been renamed instead of characters because of an error in the question

- Father address -To
- His Brother address-Cc
- Uncle Senaka address -

(ii) E

(iii) H

(iv) Sent items/box

(v) Recipient e-mail address is wrong

The recipient's received mailing account is full

Reasons such as problems with the recipient's email server

(vii) inbox

16.11

- free e-mail services
Gmail ,Ymail,hotmail
- e-mail software
Outlook, MacMail, Thunderbird

17.

17.1 Two persons can exchange short messages very fast (chat) over the Internet using the chat facility.

17.2 Skype , Talk, Viber, Messenger, WhatsApp, Tango, tt, buddy

17.3 It is economically advantaged for the organization as it can be done from anywhere, so it does not take time to go to meetings.

17.4 We need fast(Band Width) and Continuous internet connection

17.5 Computers , Web cam , Internet connection ,Communication software (with audiovisual facilities)

17.6 ClickMeeting ,Microsoft Teams ,Go ToMeeting ,Google Meet ,Zoom,Cyberlink U Meeting

18.

18.1

- <http://www.pinterest.com>
- <http://www.snapchat.com>
- <http://www.youtube.com>
- <http://www.facebook.com>
- <http://www.instagram.com>
- <http://www.twitter.com>
- <http://www.whatsapp.com>
- <http://www.periscope.com>

18.2

Good effects

These social networks facilitate the people to exchange personal details, photographs, videos and daily activities.

Bad effects

- Images and videos can be distorted and produced Videos to the harm of privacy.
- Can be associated mismatching friends.
- Addictions

19.

19.1. Cloud computing is the practice of using a network of remote servers hosted on the Internet to store, manage and process data, rather than a local server or a personal computer.

19.2

- I. Infrastructure as a Service - IaaS
- II. Platform as a Service – PaaS
- III. Software as a Service - SaaS

19.3

I. Infrastructure as a Service - IaaS

This provides a virtual environment of servers to provide space to store data and software applications with the help of server computers and also to provide various resources through the use of large data centres established.

Ex:- Amazon EC2, Google Compute Engine BigCommerce, Google Apps, Salesforce, Dropbox

II. Platform as a Service – PaaS

This platform provides necessary server environment for software development. This gives facilities including operating system, programming language environment, database and web server.

Ex:- Apache Stratos, Magento Commerce Cloud.

III. Software as a Service - SaaS

This provides software installed in cloud without installing the software required by the user.

Ex:- Google Apps, Microsoft Office 365.

19.4

Advantages of Cloud Computing

- Lower software cost
- Improve performance
- Fewer maintenance issues
- Instant software updates

Disadvantages of Cloud Computing

- Requires a constant Internet connections
- Does not work well in low speed Internet connections

MCQ

1	III
2	I
3	I
4	II
5	III
6	IV
7	I
8	III
9	II
10	III
11	IV
12	II
13	II
14	III

Essay Questions

1)

- i) Internet service provider, computers, router, network adaptors, modem/ telephone line, switch/hub
- ii) UTP,STP
- iii) Star Network topology
Even if one computer is inactive, other computers can still work on the network without interruption.
- iv) It acts as a network security system, controlling the transmission of information between the Internet and the computer network.

2)

- i) aujaya@gmail.com
- ii) Cc: People who need to send copies of the email
Bcc: Recipients of emails to be sent without the awareness to those listed under To, Cc
- iii) A-undo
B-formatting options
C-insert file using drive
D-insert photo
- iv) Plain text files (.txt), image files (.jpg), MS office document(.docs)
- v) Gmail, Outlook express, Thunder bird

3)

- i) Type the Key word “Mother Theresa” in the search box of the search engine and clicking the search button, then will get a large number of web sites with hyperlinks which contain the information about “Mother Theresa” .After that Select one of them to get information.
- ii) Lower software cost, Improve performance, Fewer maintenance issues, Instant software updates any two of them
- iii)
 - a) web page
 - b) downloading
 - c) Domain name
 - d) File sharing

Education NCP - www.edncp.lk

4) Use of Multimedia

1)

a) Colour per pixel used = $(2)^{\text{bpp(bits per pixel)}}$

a pixel has 6 bits

$$\begin{aligned}\text{Colour used on the pixel} &= 2^6 \\ &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ &= 64 \text{ colours}\end{aligned}$$

b) Colour per pixel used = $(2)^{\text{bpp(bits per pixel)}}$

$$\begin{aligned}&= 2^8 \\ &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ &= 256 \text{ colours}\end{aligned}$$

c) The number bits per pixel = $\sqrt{\text{colour}}$
 $= \sqrt{36}$
 $= 6$

d) The number bits per pixel = $\sqrt{\text{colour}}$
 $= \sqrt{64}$
 $= 8$

2) A) Graphic resolution = Width x high(pixel)
 $= 200 \times 200 \text{ pixels}$
 $= 40000 \text{ pixels}$

B) Graphic resolution = Width x high(pixel))
 $= 400 \times 180 \text{ pixel}$
 $= 72000 \text{ pixels}$

3) A – Free (lasso) tool - The mouse is used to select the desired part of the graphic in the desired shape

B - Text Tool - Use to enter text

C - Blend (Gradient) - fills the selected area with a gradient blend

D – Background color – use to change Background color

E – Move - The selected part is used to move

F- Bucket fill - Used to apply a color or pattern to a selected part.

- 4) a) RGB and CMYK
b) Red, Green and Blue
c) LOSSY and LOSSLESS
d) RASTER GRAPHIC and VECTOR GRAPHIC
- 5) I) Bucket fill - Used to apply a color or pattern to a selected part.
II) Fuzzy – (magic wand) - Selects areas on color similarity.
III) Pencil - Apply color on the selected section and draw lines according to the selected pencil size.
IV) Clone - Copies a selected part of the graphic to another location.
V) Airbrush - Coloring by acting as a color sprayer on the graphic like a color brush
VI) Rectangle - The required part is used to select the square or rectangular shape
VII) Foreground - Selects a region containing foreground objects.
VIII) Paintbrush - Used to draw smooth lines and apply color according to the size of the selected brush.
IX) Smudge - blurred graphic
X) Eraser - Erases pixels from a layer.
- 6) I) E VI) J
II) C VII) H
III) A VIII) D
IV) I IX) F
V) G X) B
- 7) A. publish movie F. trim audio
B. save movie G. save
C. preview H. layers
D. starring I. new movie
E. timeline stage J. export audio

MCQ

01	II	02	IV	03	I	04	IV	05	II
06	II	07	I	08	III	09	II	10	III
11	IV	12	II	13	III	14	IV	15	III
16	I	17	III	18	III	19	I	20	II

5. Web Designing Using Multimedia

(1).

i) **P**rogramming Languageii) [Click more info](#)

iii)

- ☐ Biscuits
- ☐ Cake
- ☐ Donet

iv)

Name	Address
Gayan	Apura
Sanuka	Kgala

(2). **Fruit****<ul type="disc">****Banana****Pineapple****Mango****Grapes****Apple******

(3).

Tag	Description
<dl>	Beginning of a description list
<dt>	Introduction of list
<dd>	Description of the list

(4).

align	used to make alignment It can be Left, center, right or justify
Border	Giving a solid border around the image
bgcolor	Giving background colour
height	Height of image

(5).

i. <ul type="disc">

first

second

third

ii. <dl>

<dt>HTML</dt>

<dd>Hypertext markup language</dd>

<dt>CSS</dt>

<dd>Cascade style sheet</dd>

</dl>

iii. <ol type="a">

fruit

Vegetable

sweets

snacks

iv. <h3><u>our school AL subject</u></h3>

<ol type="A">

Science

<ul type="disc">

Bio

Maths

Commerce

Art

Tec

<ul type="disc">

Bio Technology

Engineering Technology

(6).

<title>	title of the web page
	Bold
<sub>	Subscript
<marquee>	Horizontally moving text
<p>	Paragraph
<caption>	Title of the table
<u>	Underline
	Formatting of font
	To insert image

(7). **O**Your country temperature is 27⁰C

(8).

- i) Easy to use , Can find the information user needs fast , Attracts users , Easy to update , Has room to add new features later
- ii) Reducing frame size, Reducing resolution, Adjusting frame rate , Removing unnecessary frames and sound
- iii) <h1><center>your school name</center></h1>
- iv) AL Aplication
- v)
- vi) B,C,E,F are correct

(9). PHP,JSP,ASP.NET

(10). Web content of static site do not changes until someone changes it manually, but web content of dynamic web site is often changed.

MCQ

1	4	14	1
2	1	15	4
3	1	16	3
4	2	17	2
5	4	18	4
6	1	19	1
7	1	20	3
8	1	21	2
9	2	22	2
10	2	23	3
11	3	24	3
12	3	25	4
13	2		

Essay Questions

- (1). i). `<center><h1>INFORMATION AND COMMUNICATION
 GRADE 11</h1></center>`
 ii). `<h2><center><u>MULTIMEDIA TECHNOLOGY</u></center></h2>`
 iii). `<p>(Digital graphics</p>`
 iv). ` `
 v). `<title>Welcome To My Web Page</title>`
- (2). 1-center 2-hr 3-img 4-table 5-tr 6-th 7-td
 8-rowspan 9-a 10-body
- (3).
 i) 1-title 2-p 3-center 4-src 5-width 6-align 7-b
 8-ol 9-a 10-target
- ii) a) Adobe Dream viewer b) Host c) dialog d) dynamic e) static
- (4). i) A-phishing B-Hijackers C- Virus D- worms
- ii) 1-<h1> 2- 3- 4-Table border 5-tr 6-th
 7-td 8
 remove 8 th tag
 9-a 10-href

6. Information and Communication Technology and Society

1.
 - i. 3D – three Dimensional, Holographic image processing technology, Cartoon films, Digital audio materials, Digital games, Simulation games
 - ii.
 - a. Simulation games
 - b. Holographic image processing technology
2.
 - i.
 - a. Personal data thefts, Unauthorized access into computer systems, Intellectual property rights, Fraud
 - b. Plagiarism
 - c. Damage to the computer system and documents in the event of a power outage, complete network breakdown with malware coming through the Internet, Damage caused by high voltages, computer thieves
 - d. Unauthorized access and use of computers, Problems caused by unauthorized access, When accessing to the internet by computer, Accidental crashes of a computer system can cause the destruction of essential data and information stored in a computer
 - e. Failure to dispose of electronic waste properly
 - f. Musculoskeletal Problems, RSI – Repetitive Stress Injury, CTS – Carpel Tunnel Syndrome, CVS - Computer Vision Syndrome, Headache, Stress
 - g. Digital divide, Digital Bridge
 - ii.
 - An invention made by an individual or an organization, that is, a new product or process or intellectual property that has not been used before or is not known to the public.
 - Patents are intellectual property rights granted by the government for the legal protection of inventions.
 - Plagiarism is the act of stealing another's creative work and displaying it as one's own.
 - Use in good faith means that when a person obtains information from a design with a right to it, he uses it in a way that does not harm his privacy.
 - iii. Citing, Quoting, Referencing
3.
 - i.
 - a. Use of Surge protector/ stabilizers
 - b. Use of Password
 - c. Creating user accounts
 - d. Keeping Backups
 - e. Using an uninterruptible power supply (UPS)
 - f. Lock the laboratory door
 - g. Use of firewall

4. i. Decreased computer performance, destruction and inactivation of computer software, Inability to install other software, computer hardware to weak, disruption of computer networks, data theft and destruction, reduction of hard disk capacity due to unwanted documents and files.
- ii.
- a. Bots
 - b. Phishing
 - c. Spam
 - d. Trojan Horse
 - e. Computer Virus
 - f. Hijacker/ Browser Hijacker
 - g. Worms
 - h. Adware
- 5.
- i. Be careful when connecting USB memory to a computer
Always install authorized software
Instead of an administrator account, maintain a user account, any two of them
 - ii. Access only secure websites
Before a download document or software, check with a virus guard.
Be careful with opening up e-mail.
Avoid suspicious advertisements or messages.
Do not enter personal information without checking on security
Use firewall, virus guards, email filters to avoid the risk, any three of them
 - iii. Decreased computer performance
Destruction and inactivation of computer software
Inability to install other software
Computer hardware to weak
Disruption of computer networks
Data theft and destruction
Reduction of hard disk capacity due to unwanted documents and files,
- 6.
- i. Cyber security is the security provided for Internet activities.
 - ii. Sri Lanka Computer Emergency Readiness Team (SLCERT)
Digital Infrastructure Security Agency (DIPA)
- 7.
- i. Musculoskeletal Problems, RSI – Repetitive Stress Injury, CTS – Carpel Tunnel Syndrome, CVS - Computer Vision Syndrome, Headache, Stress, any three of them

- ii. a. Using correct posture in the use of a computer
b. Keeping the mouse near the computer,
c. Moving wrist as is necessary
d. Take a break in between work, walk short distances, any three of them

8.

- i. Electronic products such as computers, television, mobile phones, printers worked using electricity or powered by batteries have become non-working after reaching the end of their useful life are known as e waste.
- ii. Mouse, key board and other electronic devices, Scanner, Printer, Audio/video equipment, Mobile phones, Monitor, Personal electronic devices, Television, CFL bulbs , any three of them
- iii. Damage to brain cells, Disruption of the nervous system, Allergies on the skin, Once inhaled, Mercury vapour can harm kidney, liver and central nervous system , Damage to DNA (Deoxyribonucleic Acid) and chromosome, swelling and irritation on the body, nausea, stress, issues in blood veins and cancers. any three of them

9.

- i. Reduce usage - Reduce unnecessary purchase by maintaining the existing electronic devices
Reuse - Sell or donate old but working electronic devices without discarding
Recycle - Directing irreparable devices to an institute which recycle them
- ii. Ceylon Waste Management Pvt Ltd
- iii. Central Environmental Authority of Sri Lanka

10.

- Digital divide - is an economic and social inequality due to the differences in access to, ability to or use of Information Communication Technology
- Digital bridge - is forming connections among people avoiding the digital divide.
- Computer literacy is the ability to use information and communication technology applications and tools.
- De-skilling is the process of eliminating skilled labor in an industry or economy through the introduction of technologies driven by semi- or unskilled workers.
- Social media is an interactive computer-based technology that facilitates the exchange of information, ideas, professional interests and other publications to communities around the world..
- Cyber crimes is societal violence from misuse of social media.

11.

- i. Education/ Lack of education, Ability to use technology / Inability to use technology, Affluence / Poverty, Industrial development / Under industrial development, Suburban / Rural, any three of them
- ii. Focus on attention about digital literacy, supply of computers, remove other basic barriers and provide equal opportunities, involve intermediaries, improve infrastructure
- iii.
 - Realization of the need of using ICT resulting in an urge to use it
 - Helps overcome issues arising from the use of ICT as far as possible.
 - Realizes the value of using the Internet for payment of bills, doing research and collecting information about education, being aware of information related to modern medicine and in applying for jobs.

12.

- i.
 - Helping to get educational information
 - Joining to discussions through the video conference or forums
 - Associating with people from all over the world and sharing image, video and songs
 - To gain an understanding of other ideas activities, any three of them
- ii.
 - Uploading others' images without permission
 - Giving publicity to information that can harm a person's reputation
 - Misleading people with wrong information and images about others published on the Internet to cause personal discomfort
 - Using social media to give out false information and, thereby attract others to finally destroy lives
 - Using unfair means to gain access to others' personal accounts and stealing personal information, any three of them
- iii.
 - Be careful in selecting social media over the Internet
 - Be cautious about making friends through social media over the Internet
 - Be careful in presenting personal information to social media over the Internet

13.

- i. b
- ii. c
- iii. a
- iv. f
- v. i
- vi. g
- vii. e
- viii. d
- ix. h

MCQ

1	III
2	II
3	II
4	IV
5	II
6	IV
7	III
8	III
9	II
10	II
11	III
12	I

Essay Questions

1.

- i. Digital divide is an economic and social inequality due to the differences in access to, ability to or use of Information Communication Technology.
- ii. Education/ Lack of education, Ability to use technology / Inability to use technology, Affluence / Poverty, Industrial development / Under industrial development, Suburban / Rural, any three of them
- iii. Digital bridge is forming connections among people avoiding the digital divide
- iv. Education/ Lack of education, Ability to use technology / Inability to use technology, Affluence / Poverty, Industrial development / Under industrial development, Suburban / Rural, any three of them

2.

- i. A Software that threatens and affects the use of a computer system.
- ii. Bots, Phishing, Spam, Hijacker/ Browser hijacker, Trojan Horse, Computer Virus, Adware, Computer worms, any three of them
- iii. Always install authorized software
Install a virus guard into the computer. Update the virus guard as is necessary
Be careful with the use of a USB memory.
Instead of an administrator account, maintain a user account
Access secure websites
Select only secure websites for the download of software or other material
Be careful with opening up e-mail.
Avoid suspicious advertisements or messages
Do not enter personal information without checking on security
- iv. Avast, Panda, Microsoft Security Essentials, Avira , AVG, Comodo Antivirus, Kaspersky, McAfee, Norton, Bitdefender

3.

- i. Electronic products such as computers, television, mobile phones, printers worked using electricity or powered by batteries have become non-working after reaching the end of their useful life are known as e waste.
- ii. Damage to brain cells, Disruption of the nervous system, Allergies on the skin, Once inhaled, Mercury vapour can harm kidney, liver and central nervous system , Damage to DNA (Deoxyribonucleic Acid) and chromosome, swelling and irritation on the body, nausea, stress, issues in blood veins and cancers. any three of them
- iii. 3R methods
- iv. Reduce - Reduce unnecessary purchase by maintaining the existing electronic devices
Reuse - Sell or donate old but working electronic devices without discarding
Recycle - Directing irreparable devices to an institute which recycle them