PROVINCIAL DEPARTMENT OF EDUCATION NORTH WESTERN PROVINCE
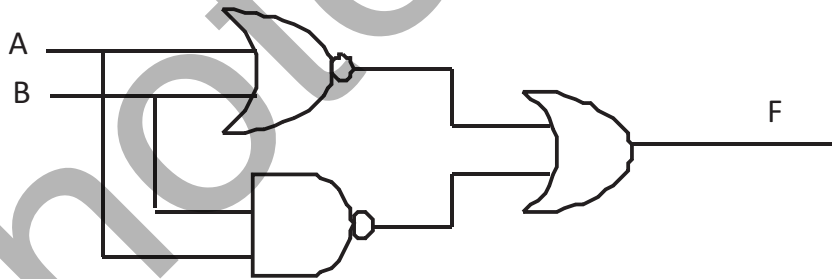
THIRD TERM TEST 2020

Grade 11   INFORMATION & COMMUNICATION TECHNOLOGY - II   **Two Hours**

Name / Index No. :

- **Answer five (05) questions only, including the first question and four (04) others.**

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01. (i)   a. Expand the binary number 1011_2 on positional values.

     b. Find the binary equivalent of $AB_{16.}$

   (ii)   a. Name the suitable logic gates for the following incidents.

       i.   A street lamp with a circuit that turns off automatically when the sun is shining well and turns on automatically when it is dark.

       ii. A passenger who boarding a bus can get off at the front or back door.

     b. If 0 and 1 respectively are given as inputs for A and B in the following logic circuit, name the output of F.
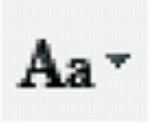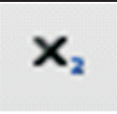

   (iii)   Consider the following computer specifications and answer the given questions.

· Processor	-	Intel Quad core I 9
· Memory Capacity	-	8 GB
· Hard disk Capacity	-	2 GB
· Computer Screen	-	18.5"
· Operating System	-	Windows 10

     a. State the type of the processor and the name of the manufacturer.

     b. Name the capacity of the main memory and explain the importance of the main memory to the computer.

මෙම ප්‍රශ්න පත්‍ර සියලුම සේඛ්‍යාපාර්ක්ෂිත කුමවේද අනුගමනය කරමින් සේඛ්‍ය අමාත්‍යාංශයේ නිර්දේශ අනුව මුද්‍රණය, පැකට් කිරීම හා බෙදාහැරීම සිදුකර ඇත.

(iv) Following table lists some of the icons included in the home tab of the Word Processing Software and some related functions. Write down the icon number and matching function label.

	Icon		Function
1.	**Aa** ▼	A.	Subscribs
2.	x_2	B.	Sort
3.	x^2	C.	Change case
4.	$\frac{A}{Z}\downarrow$	D.	Superscript

(v) a. Name two job opportunities that related to the Information and Communication Technology.

   b. Write down two methods that can be used to dispose e waste safely.

(vi) Consider the following spreadsheet segment and answer the given questions.

	A	B	C	D	E
1	්සිසුන්ගේ නම	මිලදී ගත් අයිස් පලම් ප්‍රමාණය	අයිස් පලමක මිල	මුළු වටිනාකම	
2	වාල්ස්	5	රු15	75	
3	හොවාර්ඩ්	8		120	
4	චේමලස්	3		45	
5	ජේ්සප්	2		20	
6	ඇඩා	6		90	
7					
8					

   a. If the formula in cell D2 is = B2*C$2 , write down the formula that will appear in cell D5.

   b. Write two formulas to get the total value of ice packets of all students in cell D7.

(vii) Match items in column A with column B using the knowledge of Internet and Information technology.

(02)

Column A	Column B
1. Domain Name	A Google
2. IP Address	B http://www.nie.lk
3. URL	C 192.251.56.0
4. Search Engine	D nie.lk

(viii) Complete the following table using the knowledge of Application software and relevant examples. (Copy down this table in your answer script)

Spreadsheet software	Document Processing Software	Software for communication	Database software

List - (Skype, Page Maker, Ms Excel, Oracle, Open Office Base, Ms Access, Ms Outlook, InDesign, Open Office Calc, Skype)

(ix) The following is a segment of Pascal program that included an array of ICT term marks of 50 students

> Var ICT :rray[0..50] of Integer

Identify two errors that occurred while writing this segment of program.

(x) a. Write each example for lossy compression file format and lossless compression file format in digital graphics respectively.

b. Following table shows the tools and its functions related to the editing software. Match the tools given in first column to the correct function in the second column.

	Tool		Function
1.		A.	Copy a selected part of an image to another place
2.		B.	To Blur an image
3.		C.	Darkens or sharpens an image
4.		D.	A selection tool

02. (i) There are many benefits as well as problems associated with the use of ICT. Indicate whether the following statements are true or false in related to the issues. (2 marks)

a. Stolen of intellectual property is an issue related to values. (..........)

b. Installing software firewalls is a method to protect a computer logically. (..........)

c. Phishing attack affects the computer system, unknowingly to the user presents itself as harmless. (..........)

d. The pain which occurs from shoulders to the fingers are called as Repetitive stress Injury. (..........)

(ii) We can avoid most of the health issues following correct sitting postures when using the computer. Name two such correct postures. (2 marks)

(iii) Today Cybercrimes have become a big threat to society. Mention two such cybercrimes. (2 marks)

(iv) Write 2 facilities that available to the student and the Education Management Division through online distance learning. (2 marks)

(v) Video conferencing is conducting a conversation using audio and video transmission over computer networks. Name 4 requirements for a video conference. (2 marks)

03. (i) The HTML source of the web page shown in figure 1 is given in Figure 2 with certain missing tags and attributes labeled 1 to 8.

COID 19 coronavirus

කහින විට හෝ කිවිසුම් අරින විට වැලමිටේ ඇතුළ පැත්තෙන්, මුඛය සහ නාසය ආවරණය කර ගන්න

இருமும்போது அல்லது தும்மும்போது உங்கள் முகத்தை முழங்கையால் மறைத்துக்கொள்ளுங்கள்

Cover your mouth with your elbow when you cough or sneeze

COVID-19

On 31 December 2019, the WHO Country Office for China was informed about cases of pneumonia of unknown cause in Wuhan, China. Authorities identified a new type of coronavirus, subsequently named COVID-19. On 30 January 2020, WHO Director-General declared the outbreak of COVID-19 a Public Health Emergency of International Concern (PHEIC), and on 11 March 2020, COVID-19 was characterized as a pandemic.

To prevent COVID-19, follow these 9 steps:

- Wash your hands frequently and thoroughly
- Avoid touching your mouth, nose, and eyes
- Cover your mouth when you cough or sneeze with the bend of your elbow or tissue
- Avoid crowded places
- Practice physical distancing, try to maintain at least 1m distance from others

We are still in the early stages of understanding this new virus and the disease it causes. For more information click here

Figure 1

```
<html>
<head><title> Sri lanka coid 19 coronavirus </title></head>
<01 >
<center><h1> COID 19 coronavirus</h1></center>
<img  02 =coid.jpg'>
<03  size='4'>
<04  align ='justify'>

On 31 December 2019, the WHO Country Office for China was informed about cases of pneumonia of unknown
cause in Wuhan, China. Authorities identified a new type of coronavirus, subsequently named COVID-19. On 30
January 2020, WHO Director-General declared the outbreak of COVID-19 a Public Health Emergency of
International Concern (PHEIC), and on 11 March 2020, COVID-19 was characterized as a pandemic.
</ 04 >

<05 >To prevent COVID-19, follow these 9 steps: </ 05 >
<06 type='circle'>
<07> Wash your hands frequently and thoroughly </07>
<li> Avoid touching your mouth, nose, and eyes </li>
<li> Cover your mouth when you cough or sneeze with the bend of your elbow or tissue </li>
<li>Avoid crowded places</li>
<li> Practice physical distancing, try to maintain at least 1m distance from others </li>
</ 06 >
We are still in the early stages of understanding this new virus and the disease it causes.
For more information <a  08='https://www.who.int/emergencies/diseases'>click here</a>

</font>

</ body>
</html>
```

Figure 2 – HTML code

Select the matching correct tag or attributes from the following list for each of the labels 1 - 8 given in figure 2 and write down against each label number. (4 marks)

List – (h3, href, body, font, src, ul, p, li, ol.   Herf)

(ii) a. Name two software that can be used to create graphic in the above web page.
         (1 mark)

   b. Write down the html code to insert the border around the graphic. (Consider the width of the border is 2 pixels.) .   (1 mark)

(iii) a. Define what is protocol which used in Internet and give 2 examples for protocols.
          (2 marks)

   b. Today, cloud computing concept has become popular all over the world. Define that concept and name an advantage and disadvantage of that.   (2 marks)

04.   Following is the data related to the countries in the world affected by corona epidemic as of September 9th 2020, compiled by Worldometers Institute. Answer the following questions.

Note: The number of new cases shown in column C is added to the total number of cases column.

Number of active cases = Total cases – (Total deaths + Recovered)

	A	B	C	D	E	F	G
1	Country	Total Cases	New Cases	Total Deaths	Total Recovered	Active cases	
2	All Countries	20061272	7096	575814	14818804	4666654	
3	USA	6788147		200197	4068086	2519864	
4	India	5020359	2325	82091	3942360	995908	
5	Brazil	4384299		133207	3671128	579964	
6	Russia	1073849		18785	884305	170759	
7	Peru	738020		30927	580753	126340	
8	Colombia	728590		23288	607978	97324	
9	Mexico	676487	4771	71678	481068	123741	
10	South Africa	651521		15641	583126	52754	
11							
12							

Source- https://www.worldometers.info/coronavirus/

(i) 1. Write down the formula that can be used to calculate active cases in USA. Note that this formula is to be copied to calculate the active cases of other countries too. (1 mark)

The steps necessary to calculate the active cases of other countries are given below.

Select cell ....A.......

Click on icon for ....B.......

Select the range ....C........ to ....D.......

lick on the icon for ....E.......

2. Select the correct terms for the labels A to E from the list given below.   (2 marks)

List of terms :- (Paste, Cut, Copy, F3, E3, F10, E10)

3. Write down the formula that should be entered in cell B2 to calculate the total cases reported in all countries. (1 mark)

4. If above formula copied to cell F2, write down the formula that will appear in cell F2. (1 mark)

5. Write down the formula that should be entered in cell D11 to find the country with the highest number of deaths. (1 mark)

(ii) The document given below was created using a Word processing software and it was formatted as indicated by labels 1 to 4.
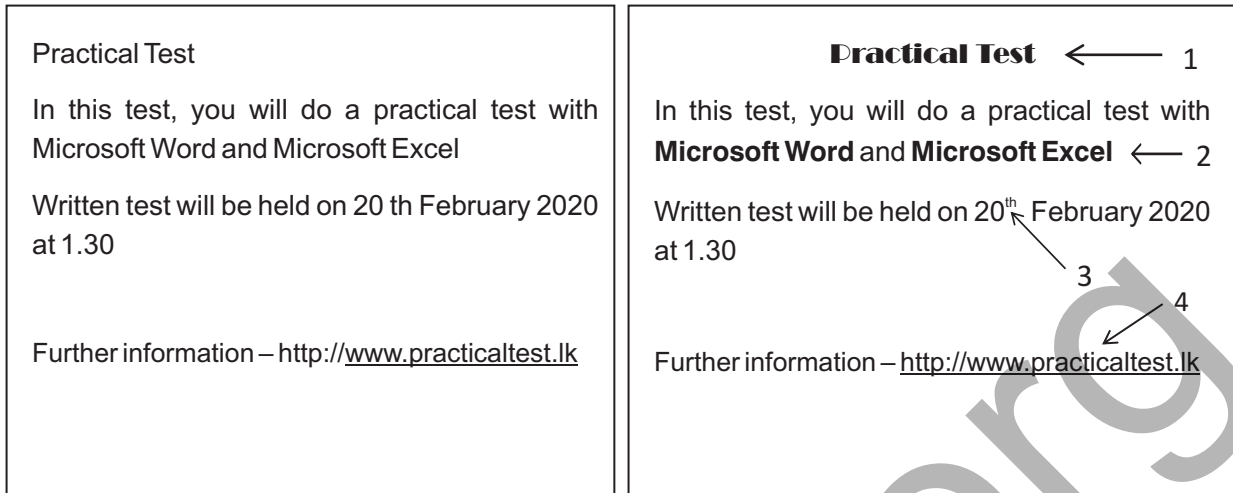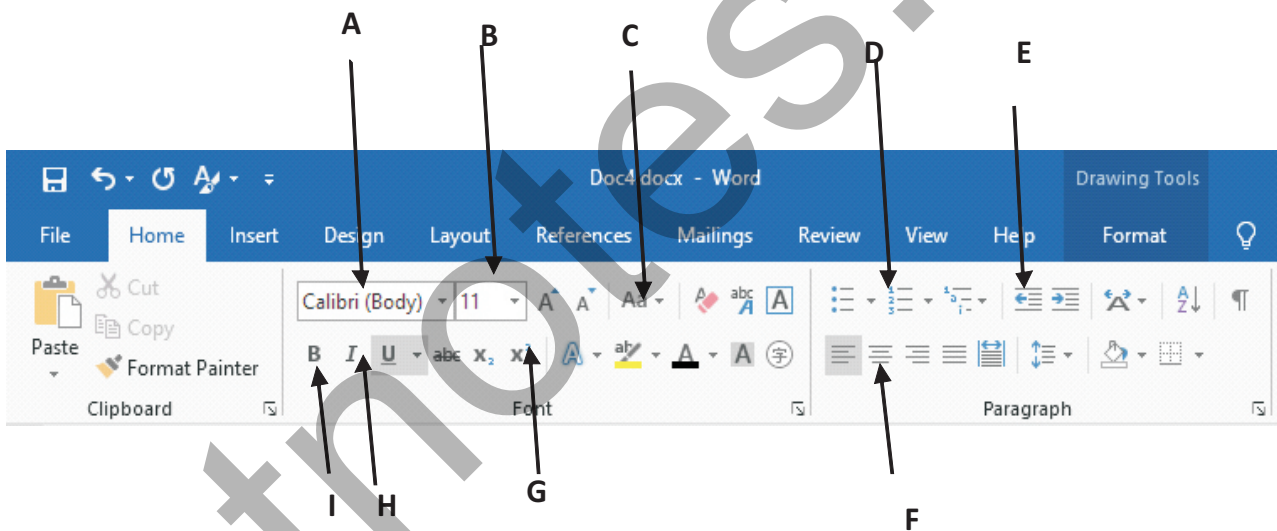

| Image A | Image B |

1. Identify the tool /tools used for each of the formatting tasks indicated by the labels 1 - 3. Write down the number assigned to the formatting tasks 1 - 3 and the relevant label of the tool. (No marks will be awarded if more formatting tools than necessary are given in your answer) (3 marks)

2. Name the tool that can be used in word processing software to link the web site http://www.practicaltest.lk as shown in label no 4. (1 mark)

05. Below are some of the tables taken from a database of the New Orient private education institute. Identify the relationships between those tables and answer the following questions.

(Student Table)

St_ID	St_Name	Date of Birth	Gender	E-mail
St001	Ruwan	2002/08/23	Male	ruwan.212@gmail.com
St002	Janith	2001/04/30	Male	janith.121@gmail.com
St003	Kamala	2001/11/10	Female	kamal.221@gmail.com
St004	Nishani	2000/10/20	female	nishani555@gmail.com

(Course Table)

Course ID	Course Name	Day	Fees (Rs.)
C0001	English	Sunday	10000.00
C0002	ICT	Saturday	15000.00
C0003	Tech	Saturday	15000.00
C0004	Electric	Sunday	12000.00

(Student course Table)

St_ID	Course_Id	Registerd date
St001	C0001	2020/02/02
St002	C0002	2020/08/05
St003	C0004	2020/08/03
St002	C0001	2020/01/02

1. What is Primary Key ? Write down 3 primary keys and their respective table names. (2 marks)

2. Write down 2 foreign keys and their respective table names. (2 marks)

3. Write the most suitable data type to the following fields. (2 marks)

   i. St_ID   iii. Fees

   ii. Date of Birth   iv. Gender

4. How much has Kamala paid to this institution? (1 mark)

5. Lakmal (Date of Birth – 2002/05/11 E mail – lakmal.324@gmail.com) is a newly enrolled student on 10th August 2020 to follow ICT course in this institute.

   i. What tables need to be updated to include the given information? (1 mark)

   ii. Write down the updated records along with the respective table names. (2 marks)

06. (i) The Principal and administration section of Wilpotha Anura Maha Vidyalaya maintain a book with details of all students from grade 6 to 13. From this year, they decided to enter the student data to the newly introduced computerized Student Information System by Education Ministry.

   a. Explain two advantages of maintaining a computerized Information system over the previous manual Information system, as described above. (2 marks)

   b. Mention 2 methods that can be used to collect Information efficiently to this new information system. (2 marks)

   c. Name the four main methods of testing phase in SDLC and explain two of them. (2 marks)

    d. Explain with reasons how this new information system can be implemented in the school.   (2 marks)

(ii) The concept of computer has become popular in around the world with the use of Operating systems with Graphical User Interface.
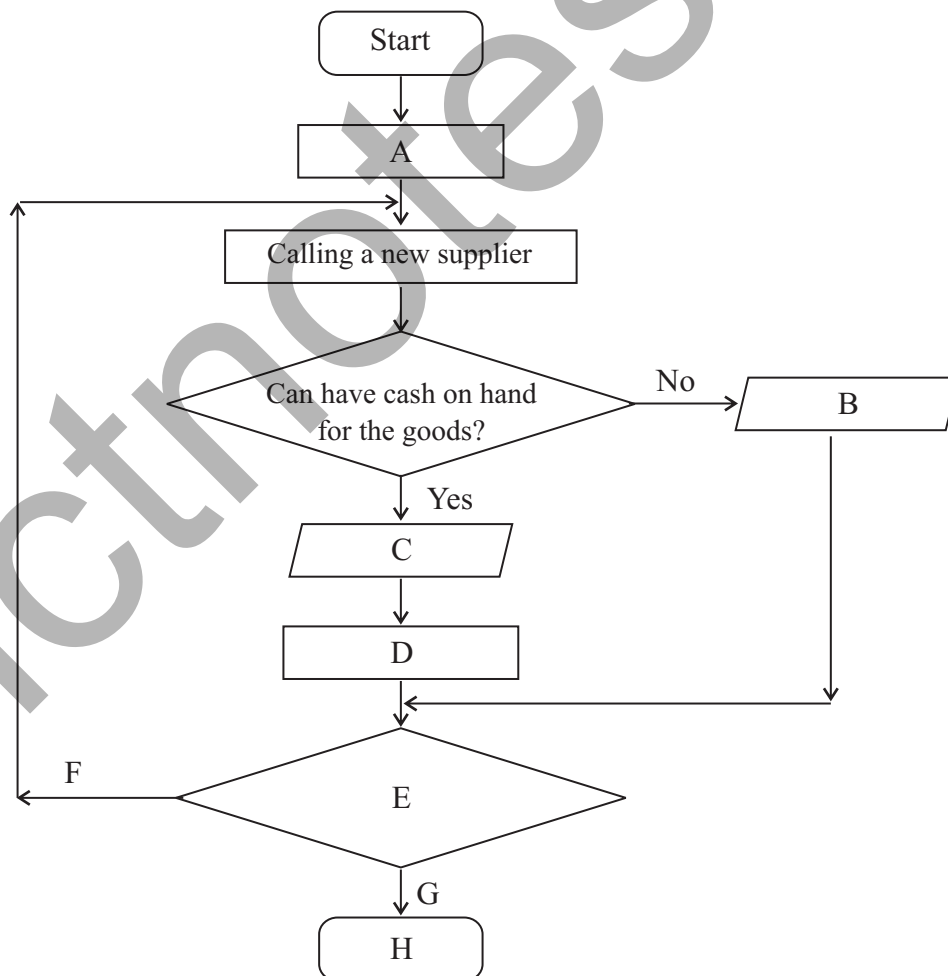
    a. Write two facts to confirm the above statement.   (1 mark)

    b. In which generation operating systems with graphical user interface was introduced?

                                      (1 mark)

07. (i) 07 Write down one of the main difference between machine language and assembly language.   (1 mark)

(ii) Kethmini is an Institute that sells agricultural products. Following is a flow chart which illustrates the recruitment of five new suppliers to this institute from an interview.

Select the correct expressions for labels A-H from the given list.

List- (End / You cannot be selected / You have selected / x=0 / x=x+1 / Is x >15? / Yes / No)

                                                      (1.5 x 8 = 4 marks)

(iii) Due to the current epidemic, the names of the 150 registered traders of fisherman association are stored in an array. The following is a segment of a program designed for this purpose. Write down answers to the following questions.

```
Var Fishmonger : array [0..149] of integer;
a:integer;
Cus_Name: String;
For a:=0 to 149
Begin
        Writeln('Please Enter your Name');
        read(Cus_Name);
End;
```

1. What is the name of this array?   (0.5Marks)

2. How many elements in this array?   (0.5 Marks)

3. What are the variables introduced here?   (1 Mark)

4. What are the data types of variables?   (1 Mark)

5. Write the starting value and ending value of repetition.   (0.5 Marks)