



PROVINCIAL DEPARTMENT OF EDUCATION NORTH WESTERN PROVINCE

**THIRD TERM TEST - 2018**

**Grade 11 INFORMATION & COMMUNICATION TECHNOLOGY - I** One Hour

Name / Index No. :

• Answer all the questions.

01. What is the binary number equivalent to the decimal number 77?  
 (1)  $01011001_2$                       (2)  $01001101_2$                       (3)  $01001100_2$                       (4)  $01001110_2$
02. The octal number equivalent to  $110110111101_2$   
 (1)  $6657_8$                               (2)  $6765_8$                               (3)  $6675_8$                               (4)  $5766_8$
03. What is the smallest BCD value form the following?  
 (1)  $01010111_{BCD}$                       (2)  $01101000_{BCD}$                       (3)  $01110001_{BCD}$                       (4)  $01001001_{BCD}$
04. If the capacity of a flash memory is 4GB, what is the answer with equivalent capacity?  
 (1)  $4 \times 2^{30}$  KB                      (2)  $4 \times 2^{32}$  bits                      (3)  $4 \times 2^{30}$  Bytes                      (4)  $4 \times 2^{12}$  MB
05. An Image captured in one place, then storing it in the image camera lens and showing it in another screen surface uses in,  
 (1) 3-D Technology                      (2) Holographic Technology  
 (3) Home Theatre System                      (4) Digital Games
06. Which of the following represents the data transfer speeds of Primary storage devices arranged in ascending order?  
 (1) Random Access Memory, Read Only Memory, Cache Memory, Register Memory.  
 (2) Random Access Memory, Read Only Memory, Register Memory, Cache Memory.  
 (3) Read Only Memory, Random Access Memory, Register Memory, Cache Memory.  
 (4) Read Only Memory, Random Access Memory, Cache Memory, Register Memory.
07. Consider the following logic circuit.



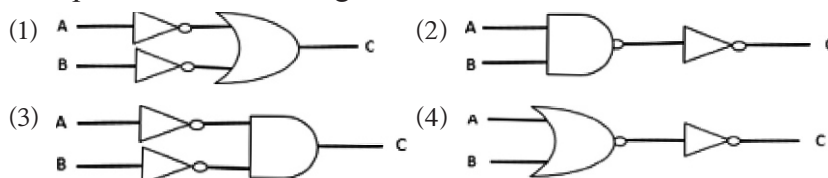
Which of the following is equivalent to the above logic circuit?

- |     |     |
|-----|-----|
| (1) | (2) |
| (3) | (4) |

(01)

08. Which of the given logic circuits represents the following Truth Table?

A	B	C
0	0	1
0	1	1
1	0	1
1	1	0



09. The main function of Operating System software is to,

- (1) check spellings of a presentation.
- (2) count the number of words in a document.
- (3) manage the hardware resources of a computer system.
- (4) send and receive e-mail messages.

10. Consider the following ports.

- A - Audio ports
- B - HDMI ports
- C - USB ports

Which of the above ports can be used to connect both input devices and output devices.

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

11. Consider the following devices.

- A - Switch
- B - Hub
- C - Remote control

Which represents the full duplex and half-duplex communication methods in the correct sequence from the above devices?

- (1) A and B
- (2) A and C
- (3) B and A
- (4) C and A

12. What are the formatting tools used to format the following sentence A, into the sentence B?

- A - computer hardware includes the physical parts of the computer.
- B - computer hardware includes the physical parts of the computer.

- (1) **B** U
- (2) U *I*
- (3) **B** abc
- (4) abc *I*

13. Following are some functions those can be performed using different software.

- A - View print preview and print.
- B - Mail Merge.
- C - Insert an Image.

Which of the above function/functions can be done using only word processing software?

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

14. Which is used to represent the number of pages, the number of words and the language in a document?

- (1) Title Bar (2) Status Bar  
(3) View Bar (4) Scroll Bar

15. Consider the following activities.

- A - Discussing an educational problem with a teacher connecting online.  
B - Sending an assignment prepared at home to the institute where you follow a course.  
C - Getting the Digital Library facility.

Which of the above incidents is/are related to the Online Distance Learning?

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

16. Following are some threats caused by malware programs.

- A - Showing unwanted advertisements on the computer screen.  
B - Collecting personal information from instant messages and internet conversations.  
C - Receiving unwanted email messages.  
D - Directing the user into another webpage by misleading him/her.

Which is an activity of the malware type “bots”?

- (1) A (2) B (3) C (4) D

17. Consider the following statements about spread-sheet software.

- A - Control key is used to select several cell ranges in a spread-sheet?  
B - When entering telephone numbers, the cell range containing those numbers must be formatted as Text.  
C - When entering mixed numbers, inserting the whole number and then after a single space, the fractional part is entered.

Which is true from the above statements?

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

• Question numbers 18 and 19 are based on the following spread-sheet segment.

	A	B	C
1		3	
2	2	4	9
3	7	1	
4	9		

18. The formula =SUM(\$A2:A3) is given in the cell A4. Which of the following will appear in cell B4, if this formula is copied into the cell B4?

- (1) 3 (2) 5 (3) 14 (4) 23



**Grade 11 THIRD TERM TEST 2018 INFORMATION & COMMUNICATION TECHNOLOGY - I**

26. Consider the following logical expression.

if passed\_subjects >= 06 AND if no\_OfCredits >= 04 AND if maths <> 'W' Then results = "Selected"

Which of the following is the equivalent pseudo code segment for the above logical expression?

- (1) 

```
if passed_subjects >= 06 then
    if no_OfCredits >= 04 then
        if maths <> 'W' then
            results = "Selected"
        endif
    endif
endif
```
- (2) 

```
if passed_subjects > 06 then
    if maths >= 04 then
        if no_OfCredits = 'W' then
            results = "Selected"
        endif
    endif
endif
```
- (3) 

```
if passed_subjects >= 06 AND then
    if no_OfCredits >= 04 then
        maths <> 'W'
    else
        results = "Selected"
    endif
endif
```
- (4) 

```
if passed_subjects > 06 then
    if maths >= 04 then
        if no_OfCredits = 'W'
            results = "Selected"
        endif
    endif
endif
```

27. Consider the following Pascal code segment.

```
program repetition;
var x , i : integer;
Begin
    for x := 1 to 3 do
        writeln('*');
    for x := 0 to 2 do
        write ('*');
    readln;
end.
```

The correct output after executing the above Pascal program is,

- (1) 

```
***
***
```
- (2) 

```
***
**
```
- (3) 

```
*
*
****
```
- (4) 

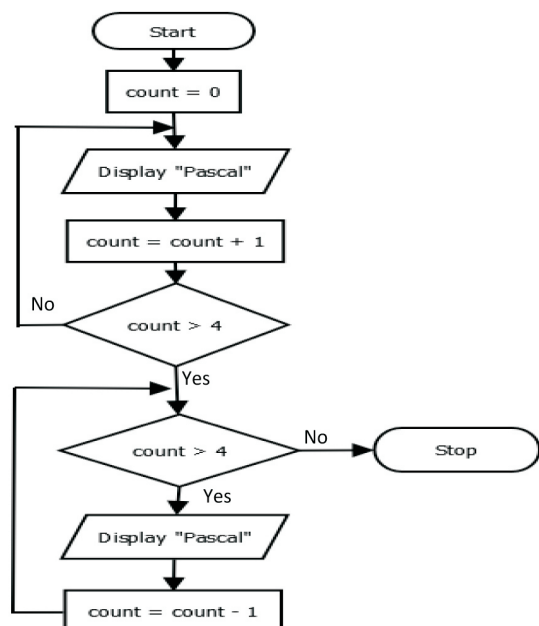
```
*
*
*
***
```

28. Consider the following statements regarding the given flowchart.

- A - There is REPETITION within a REPETITION.
- B - The value of count is 5 after the repetitions.
- C - The number of repetitions is greater than the value of count.

The correct statement(s) is/are,

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



(05)

29. Following pseudocode has been designed to represent even numbers from 0 to 10 and their total.

```

sum = 0
number = 0
until ..... (X) .....
    display number
    number = number + 2
    sum = sum + number
end until
display sum

```

Here, the most suitable condition for X is,

- (1) number > 10                      (2) number >= 2                      (3) number < 10                      (4) number < 2
30. Heights of 30 students are stored in an array named "height" in order to calculate their average height. The pseudo code for calculating the average height of a student is given below with the labels (P), (Q) and (R). The heights of the students are stored in the array in respective order.

```

average_height = 0
total_height = 0
for n = 0 to (P)
    begin
        total_height = total_height + height [ (Q) ]
    end
average_height = total_height / (R)

```

The suitable values for P, Q and R respectively are,

- (1) 29, n and 30                      (2) 30, n and 30  
(3) 30, height and n                      (4) 30, 30 and height

- Use the following paragraph for the questions 31 and 32.

The clinical histories of the patients who come to the hospital are given to the doctor by the current Manual Record Keeping System. The director of the hospital has decided to maintain this manual system by a new computer based system.

31. The Ministry of Health decides to use this system for the whole country after installing it in the hospital. This implementation is well defined by,
- (1) Phased Implementation.                      (2) Parallel Implementation.  
(3) Pilot Implementation.                      (4) Direct Implementation.
32. The Director of the Hospital decides to test this system in the hospital environment after testing it in the system developer's environment. This testing is known as,
- (1) Integrated Testing.                      (2) Direct Testing.  
(3) Acceptance Testing.                      (4) Unit Testing.

33. What is the correct expression for the service that can be obtained using internet from the following services?
- (1) Sending small size files as attachments when sending email messages is known as File sharing.
  - (2) Installing Software in the server , to the client computers can be performed by Remote access.
  - (3) Listening to a song or watching a film you like is File Transfer Protocol.
  - (4) The collection of the electronic documents in the computers around the world connected to the internet is known as Streaming of media.
34. The term “/web/history/” in the uniform resource locator “http://www.bonus.lk/web/history/his.pdf” related to a server computer represents the,
- (1) service
  - (2) Location of the resource
  - (3) Domain Name
  - (4) Resource file
35. Providing the required environment for software development and execution of the software in the concept of cloud computing is known as,
- (1) Platform as a Service
  - (2) Software as a Service
  - (3) Infrastructure as a Service
  - (4) Host as a Service
36. Which of the following HTML tag can be used to emphasize text?
- (1) <p>
  - (2) <em>
  - (3) <sub>
  - (4) <sup>
37. What is the function which can be performed by the HTML tag <caption> when developing web sites using HTML?
- (1) Inserting a title to a web page
  - (2) Inserting a title to an Image
  - (3) Inserting a title or a description to a table
  - (4) Inserting a an animation
38. Which of the following HTML attribute that can be used to show the gap between cells of a table when developing websites using HTML?
- (1) cellpadding
  - (2) rowspan
  - (3) colspan
  - (4) cellspacing
39. Maintaining a private daily note or a magazine online is known as .....
- (1) Forum
  - (2) E-mail
  - (3) Dairy
  - (4) Blog
40. The correct posturer you have to maintain when using a compute as a student who studies ICT is,
- (1) Keeping the computer screen above your eye level.
  - (2) Maintaining the gap between the computer screen and the eyes about 10-16 inches.
  - (3) Keeping the user's back straight against the back of the chair and keeping shoulders relaxed.
  - (4) Keeping legs vertical to the ground with soles a little above the ground level.





PROVINCIAL DEPARTMENT OF EDUCATION NORTH WESTERN PROVINCE

**THIRD TERM TEST - 2018****Grade 11 INFORMATION & COMMUNICATION TECHNOLOGY - II** Two Hours

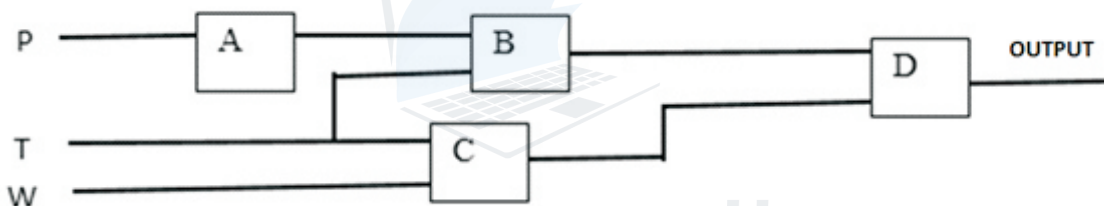
Name / Index No. :

- Answer **five** questions only, selecting the **first** question and **four** others.
- First question carries 20 marks and each of the other questions carries 10 marks.

(01) (i) (a) Convert the octal number  $672_8$  into a hexadecimal number. Write the steps of your simplification.

(b) Show the Most Significant Digit and the Least Significant Digit of the number 0.0897

(ii) The following image denotes a circuit diagram prepared to identify the states where the sound is generated by nuclear reactions under some conditions.



Sound is generated at the states when the pressure of Carbon dioxide (P) decreases and the temperature  $(T) \leq 330^\circ\text{C}$  or when the temperature  $(T) \leq 330^\circ\text{C}$  and water pressure  $(W) > 100$ .

- Increasing(1) of carbon dioxide pressure(P), decreasing(0).
- Temperature  $(T) \leq 330^\circ\text{C}$  is (1) , Temperature  $(T) > 330^\circ\text{C}$  is (0).
- Water pressure  $(W) > 100$  is (1), Water pressure  $(W) \leq 100$  is (0)

What are the suitable logic gates for A, B, C and D of the above circuit diagram?





(iii) Name the two colour models used in Digital Graphic Design.

(iv) Each member who enters the public library must get scanned the barcode of the member card that he/she has, using the barcode reader at the library counter. If he/she is identified as a valid member after checking for the validity of the card, the door is automatically opened. The members, who have selected the books for taking them away, go to the librarian. After scanning them using the barcode reader at the lending counter, the receipt with the due date to return, the description about fines if the time period is exceeded, is issued by the printer as two copies. After handing over one copy of the receipt to the librarian signing on it, the books can be taken away.

Write down one example for each of the components **input**, **process** and **output** of the above system.



- (v) Types of ports are given from 1 to 4 in the first row of the following table. Names of those ports are given from A to D in an incorrect order in the second row.

port	1 	2 	3 	4 
Identifying Name	Network port A	Serial port B	PS/2 port C	Parallel port D

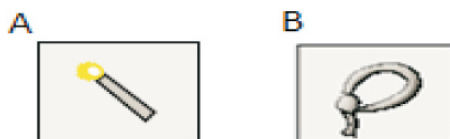
Match the correct port in the first row with the correct name in the second row and write the number of the port along with the correct letter of the port name respectively.

- (vi) A computer operating system performs two main functions. What are those functions?
- (vii) Consider the following two groups A and B. There are some protocols used in internet in the group A and the descriptions related to the protocols in group A are given in group B.

Group A	Group B
1. SMTP	A. Controlling the exchange of IP addresses.
2. ICMP	B. Controlling file exchange.
3. TCP/IP	C. Informing when are errors.
4. FTP	D. Electronic mail exchange

Write down the four matching pairs using numbers and letters given.

- (viii) Following A and B denotes Two icons used in a Graphic Design Software. Write the functions those can be performed by them.



- (ix) Write down the most suitable word/words for filling the blanks A to D from the list given below. It is sufficient to write only the label letter and the word/words relevant to them.

List : ( partitioning, formatting, defragmentator, fragment, task manager )

- (a) When storing a file in a secondary storage device, the parts of the file being stored in different locations of the disk is .....**(A)**.....
- (b) Logically dividing a hard disk into some parts is known as .....**(B)**.....

- (c) Preparing a storage device into a form where it uses the same file structure of the operating system is known as .....<sup>Ⓒ</sup>..... .
- (d) .....<sup>Ⓓ</sup>..... provides the information about programs and processes those rrun in the computer.
- (x) Imagine the time(in minutes) spent to solve a Rubic cube at 4 times is stored in an array nemed time. After executing this algorithm for this array the marks obtained by it are stored again in the array itself.

```

for i = 1 to 3 do
  begin
    if time[i] > time[i + 1] then
      time[i] = 0
    else
      time[i] = time[i] + 5
    end
  for i = 1 to 4 do
    display time[i]
  
```

Array Index	1	2	3	4
time	4	5	4	5

Write down the output after the algorithm is executed.

- (02) (i) Madhusanka has produced a fertilizer spreading machine as his new invention. . Sumedha issued this as Sumedha's product without his permission.
- What is the legal issue that Madhusanka has faced here ?
  - What action could Madhusanka have taken for the legal protection of his new invention?
  - Write down other two legal issues when using information and communication technology.
- (ii) Following are few symptoms of health issues related to use of Information and Communication Technology.
- Pain extending from the shoulder to the fingers of the body.
  - Feeling of a numbness and pain in the fingers.
  - Dry eyes, tearing, pain in the head or neck are symptoms of this.

Select the health issue from the following list related to the above symptoms and write it in front of the relevant number.

List : (headache, Repetitive Stress Injury, Carpel Tunnel Syndrome, Computer Vision Syndrome.)

- (iii) (a) “ De-Skilling is an effect of using Information and Communication Technology.” Give two examples for this.
- (b) As electronic waste is not discarded following the correct procedure of disposal, it has caused different health hazards. Write two health issues arose by this.

- (03) (i) Consider the following HTML file at the right side with labels from to representing some missing tags and attributes and the its output shown at the right.

## WELCOME TO SRI LANKA



Sri lanka is a beautiful country.  
It is in the Indian Ocean.  
There are many places.

places	Famous for
Rathnapura	Gems
Okkampitiya	

[www.srilanka.lk](http://www.srilanka.lk)

```
<html>
<body>
< ① > WELCOME TO SRI LANKA < / ① >
<img ② ="srilanka.jpg" width="150" height="75">< ③ >
Sri Lanka is a beautiful country < ③ >
It is in the < ④ > Indian Ocean. < / ④ > < ③ >
There are many places.
< ⑤ border="1">
<tr>
< ⑥ >places< / ⑥ > < ⑥ >Famous for< / ⑥ >
< /tr ><tr >
<td>Rathnapura< /td > <td ⑦ ="2"> Gems < /td >
< /tr ><tr >
<td>Okkampitiya< /td >
< /tr >
< / ⑤ >
<a ⑧ ="www.srilanka.lk">www.srilanka.lk< /a >
< /body >
< /html >
```

Select the correct tag or the attribute relevant to the label numbers from to represented in the above HTML file from the following list and write them against the relevant label numbers.

List - (ul , em , h3 , u , href , colspan , src , br , i , table , line , td , th , a , rowspan)

- (ii) Write True or False against the number of description given below.

- (1) Space between the words can be formatted by using the tag “&nbsp;”.
- (2) <dl> tag is used to start a definition list.
- (3) Kompozer is an example for an open source web editor.
- (4) “Users” doesn't belong the roles related to web designing.

## Grade 11 THIRD TERM TEST 2018 INFORMATION &amp; COMMUNICATION TECHNOLOGY - II

(04) Following spreadsheet shows a record of electronic devices produced within a year. Answer the questions with the help of the spreadsheet.

	A	B	C	D	E	F
1	<b>Global Electronics</b>					
2				Unit Production Cost		1.23
3						
4	Device	ProductionAmount	InactiveAmount	Active Amount	ProductionCost	
5	Resistors	458840570	26584	458813986		
6	Capasiters	365747985	34579	365713406		
7	Diodes	257956268	45751	257910517		
8	Transiters	35663921	36827	35627094		
9	IC	235894859	65742	235829117		
10	Relay	94573803	45653	94528150		
11	Crystal	987617754	785624	986832130		
12						
13	Percentage	40.50544229				

(i) Write down the formula that must be inserted into the cell D5, in order to find out the number of active Registers.

(Active Amount = Production Amount – Inactive Amount )

(ii) Write down the formula to find out the production cost for the produced amount of Registers to be inserted into the cell E5. ( Production cost = Production Amount\*Unit Production Cost)

(iii) If the production cost of remaining electronic devices are displayed after the function in the cell E5 is copied into the range E6:E11, what will be the function displayed in the cell E10?

(iv) Following function is written in the cell B13, in order to represent the maximum value of active production amount as a percentage of total production amount.

$$[ = \text{function1}(\text{cell1}:\text{cell2}) / \text{function2}(\text{cell3}:\text{cell4}) * 100 ]$$

The following relationship has been applied for the above function

Percentage = (maximum value of active production amount / total production amount) x 100

Write the terms relevant to *function1*, *cell1*, *cell2*, *function2*, *cell3*, *cell4* .

(v) Write the cell range that should be selected to draw a graph between production amount and active amount.

- (05) (A) ABC is a business organization that provides vehicles for rent. A database is maintained for the ease of management of the organization.

Customer data table

Vehicle table

Lending table

Cu_Name	Reg_No	Reg_date	Ve_Name	Ve_No	Reg_No	Ve_No	Borrowed_Date
S.A. Nimal	1001	2018/05/22	Alto	KJ-2232	1002	KE-1211	2018/07/08
M.Nifraz	1002	2018/05/26	Sunny	HM-5565	1001	KJ-2232	2018/07/09
P.Kamal	1003	2018/05/27	Allion	KE-1211	1002	HM-5565	2018/07/09

- (i) List two primary key fields and their respective table names in the above database.
- (ii) Write two foreign key fields and their respective table names in the above database.
- (iii) If the organization buys a Honda Vezel with the vehicle number CAC-7677,
  - (a) Which table/tables must be updated?
  - (b) Write down the record(s) of the database table/tables that has to be updated.
- (iv) If S.A.Nimal with the Reg\_No 1001 borrows the vehicle CAC-7677 for rent on 2018/7/12,
  - (a) Which table/tables must be updated?
  - (b) Write the records of the table/tables which have to be updated.
- (v) What tables must be connected to design a query to obtain a list of customers who have borrowed vehicles for rent on 2018/07/09 ?
- (vi) What is the relationship type among the tables in this database?

- (06) (i) A pharmacy keeps daily sales records and issues drugs at the store, using manual method and it is suggested to make this process automated.
- (a) Write two different methods which can be applied to identify requirements of the suggested system.
  - (b) If the above process is done automatically, write three inputs and three relevant outputs.
  - (c) When this system is used for a long time, it is essential to maintain it. Why it is required to maintain like this? State your answer with two facts.
  - (d) System developers suggested Waterfall method to automate this system. Give one advantage and one disadvantage of selecting this method.

- (ii) Following are the steps of the process of accessing <https://www.doenets.lk/> by a candidate who is waiting for his results to check whether the grade 5 scholarship results are released

Select the correct terms from the bracket for the labels from (P) to (U) ,complete them and write them in correct order.

- (A) The web server with the IP address (P)..... returns the HTML data stream.
- (B) The user opens (Q)..... and inserts 'https://www.doenets.lk/'
- (C) The web browser sends the request 'http Get' to the (R)..... which has the IP address 222.163.157.221.
- (D) The (S)..... is rendered by the web browser.
- (E) The IP address 222.163.157.221 is sent to the client computer by (T).....
- (F) The request for converting the domain name (U)..... into its IP address is sent to the Domain Name Server.

(222.163.157.221, web browser, Web Server, HTML page, Domain Name Server, www.doenets.lk)

- (07) (i) Following is a pseudo code to read 03 numbers and display the maximum.

```

start
  get X, Y, Z
  if X > Y then
    if X > Z then
      display X
    else
      display Z
    endif
  else
    if Y > Z then
      display Y
    else
      display Z
    endif
  endif
stop

```

Draw a flowchart for the algorithm represented by the pseudo code.

- (ii) 'Samare Bathic" is an institute that produces Batik saroms. 50 employees work here for daily wages basis. Their salary for a week is paid at the end of the week according to the number of Saroms they produce in a day. It is a must to complete the work of 25 saroms a day and each employee is paid Rs. 150/= for each sarom. For each sarom that exceeds this amount is paid Rs. 200/=. An incomplete flowchart is given below to display the salary of each employee for a week and the total amount of salaries of all the employees for the week, after inputting the Employee Number and the daily amount of saroms to the algorithm.

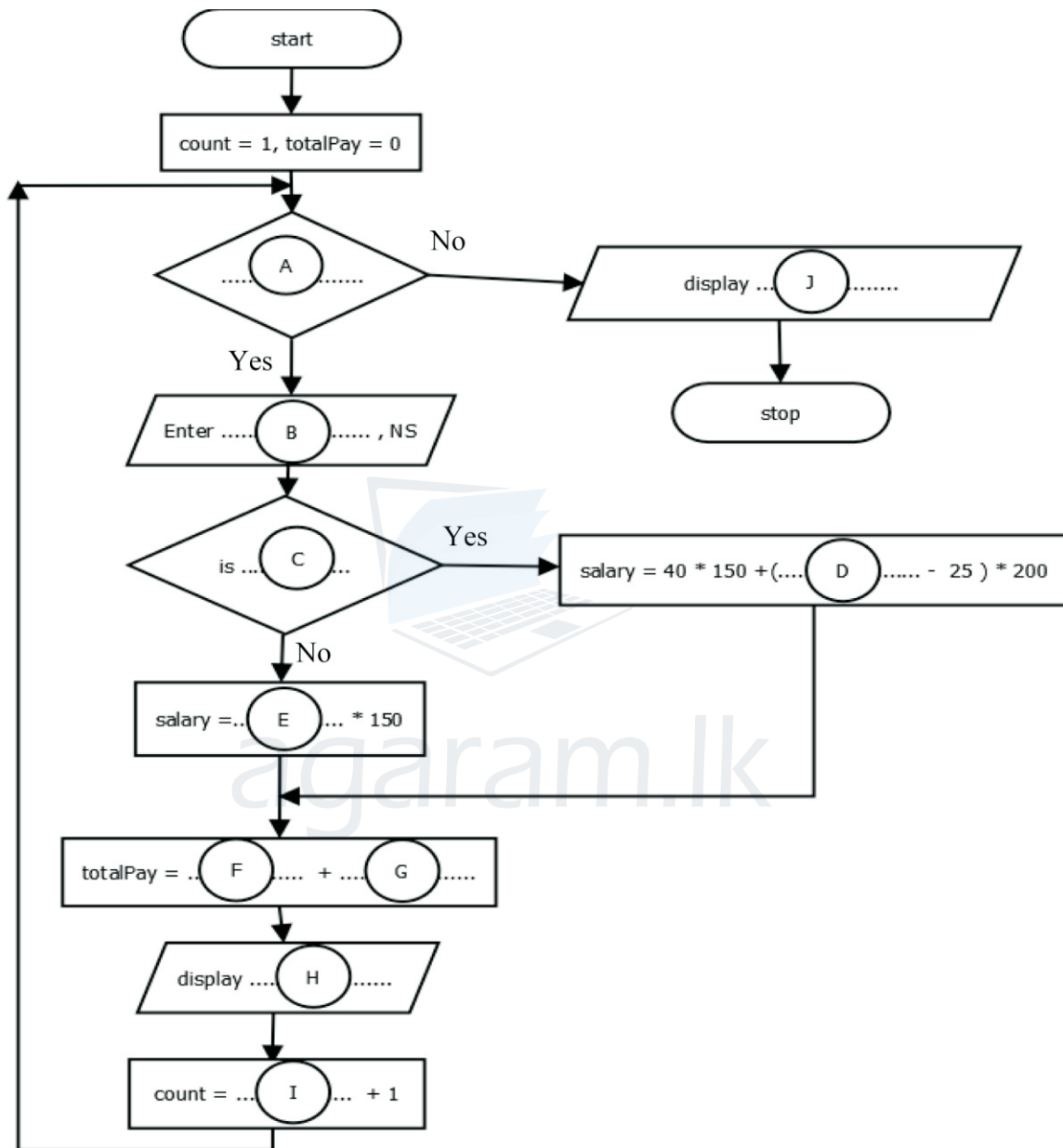


Select the correct terms for the labels (A) to (J) from the given list and write them.

NS - Number of finished Saroms

EC - Employee Code

(count, salary, totalPay, count <= 50, NS >= 25, EC, NS)



Agaram.LK - Keep your dreams alive!

Agaram.LK - Keep your dreams alive!



**Information and Communication Technology**  
**Grade 11 – 2018 (NWP)**  
**Third Term Test Answer script**

Paper I							
1	2	11	1	21	3	31	3
2	4	12	2	22	2	32	3
3	4	13	2	23	1	33	2
4	3	14	2	24	4	34	2
5	2	15	3	25	3	35	1
6	4	16	2	26	1	36	2
7	2	17	4	27	4	37	3
8	1	18	3	28	2	38	4
9	3	19	3	29	1	39	4
10	4	20	3	30	1	40	3

**Paper II**

1. (i) (a) Converting the octal number into decimal number and then converting it into hexadecimal or  
 Converting into binary number and then converting it into hexadecimal number.  
 (b) MSD : 8      LSD : 7  
 (ii) A : NOT      B : AND      C : AND      D : OR  
 (iii) RGB, CMYK  
 (iv) input :- barcode of the member card, barcode of the book.  
 Process :- Checking the validity of the member card.  
 Output :- Due date to return.  
 (If all input, process and output are correct 2 marks, if 2 two components are correct 01 mark.)  
 (v)      1-B                      2- C                      3-D                      4-A  
 (vi) Controlling hardware of the computer system/ Providing user friendly Interface.  
 (vii)      1 – D                      2 – C                      3 – A                      4 – B  
 (viii)      A- Selecting areas on color similarity and connected together.  
                  B- Selecting required sections in a graphic in the required shape.  
 (ix)      A- fragment                      B- partitioning  
                  C- formatting                      D- task manager  
 (x)      9 0 9 5
  
2. i) (a) Stealing intellectual property.  
 (b) Obtaining Patent rights.  
 (c) Data theft/Unauthorized access to computer systems.  
                  Fraud (signatures/bank account numbers etc.)                      (1x3 Marks)  
 ii) 1- Repetitive Stress Injury                      2- Carpel Tunnel Syndrome  
                  3- Computer Vision Syndrome                      (1 x3 Marks)



(d) Advantages :- Ability to start the next phase after completion of all the activities of one stage.

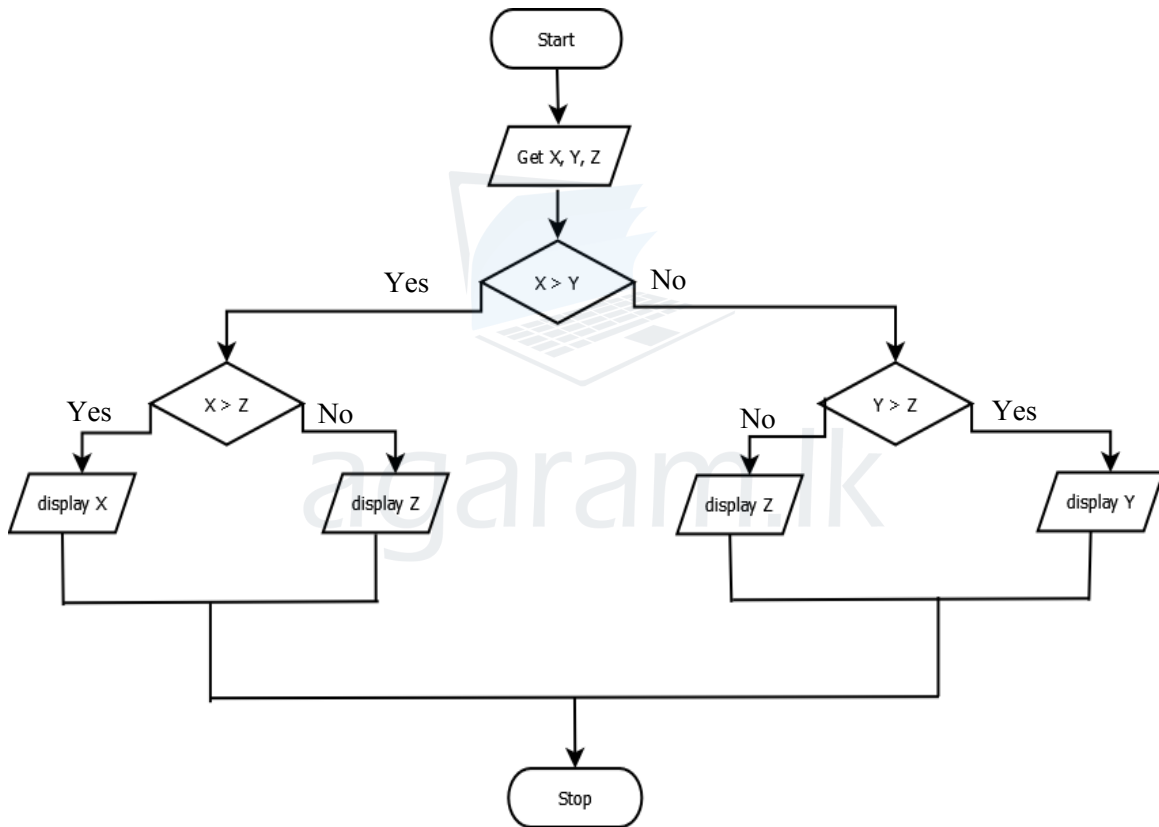
Disadvantages :- Final result can be seen only after the competition of the last stage.

- (ii) P - 222.163.157.221    Q – Web browser                    R – Web server
- S - HTML page        T - Domain Name Server        U - www.doenets.lk

**Order**

B F E C A D

7. (i)



- (ii) A - count <= 50                    B – EC                    C - NS >= 25                    D – NS
  - E – NS                                F – totalPay                    G – salary                    H – salary
  - I – count                              J – totalPay
- (1x10 Marks)



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