



PROVINCIAL DEPARTMENT OF EDUCATION NORTH WESTERN PROVINCE

THIRD TERM TEST - 2018

Grade 10 INFORMATION & COMMUNICATION TECHNOLOGY - I **One Hour**

Name / Index No. :

• **Answer all the questions.**

01. Fill in the blank using the most suitable word by considering a computer system.

Input Data Output Information.

- | | |
|-----------------|----------------------------------|
| (1) Storing. | (2) Data processing and storing. |
| (3) Organizing. | (4) Decision making. |

02. A web address which is related with E- Government.

- | | |
|---------------------------------|----------------------|
| (1) www.nenasala.lk | (2) www.schoolnet.lk |
| (3) www.e-thaksalawa.moe.gov.lk | (4) www.gov.lk |

03. A characteristic/ Characteristics of the computers which include Ultra Large Integrated Circuits (ULSIC) are as follows.

- A - No Graphical user interfaces (GUIs).
- B - Usage of Internet and Multimedia.
- C - Artificial Intelligence (AI) and Voice recognition.
- D - Micro - processor

What are the true statements from the above list.

- (1) Only A and B. (2) Only B, C and D. (3) Only B and C. (4) All statements.

04. Amal is suffering from several health problems and he miss his academics due to playing computer games. What is the statement that explains this problem clearly?

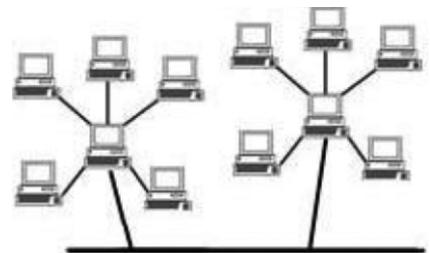
- | | |
|---------------------------|---------------------|
| (1) This is a cybercrime. | (2) Mental problem. |
| (3) Harm to the Privacy. | (4) An addiction. |

05. Following statements explain about the marks obtained by Seneviratne College.

- Marks of AMILA, KAVINDU and MENETH are 75, 85, 69.
- The highest mark for the science subject is achieved by MINILA.

- (1) First statement includes data only.
- (2) If the word 'respectively' added to the first statement, it becomes to an information.
- (3) Second statement is more meaningful than the first statement.
- (4) First statement is an information and second statement is a data.

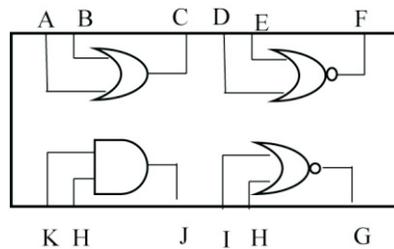
06. "These computers are used by number of users in order to exchange, storing and retrieving data and information by using number of terminals". What is the type of the computer that is described in above statement?
- (1) Mainframe computers
 - (2) Mini computers
 - (3) Super computers
 - (4) Micro computers
07. What is the answer that includes specific characteristics of a computer?
- (1) Speed, Accuracy, Intelligence.
 - (2) Efficiency, Tiredness, Accuracy.
 - (3) Multi-tasking, Ability of storing and retrieving, Efficiency.
 - (4) Accuracy, Efficiency, Unintelligence.
08. What is the memory that is used to store POST and BOOT STRAP LOADER programs?
- (1) Random Access Memory (RAM).
 - (2) Hard Disk.
 - (3) Read Only Memory (ROM).
 - (4) Memory Registers.
09. Computer keyboard is connected to (a)....., Computer is connected to a network by using (b)..... and Multimedia projector is connected to (c)..... Identify the answer that includes the most suitable words respectively to fill the blanks above.
- (1) HDMI port, USB port, RJ45 port.
 - (2) USB port, RJ45 port, HDMI port.
 - (3) PS/2 port, USB port, HDMI port.
 - (4) HDMI port, RJ45 port, Video port.
10. Identify the network topology given below.
- (1) STAR topology.
 - (2) BUS topology.
 - (3) TREE topology.
 - (4) MESH topology.



11. How many Bits in 512 Mega Bytes (512 MB).
- (1) 2^{23}
 - (2) 2^{32}
 - (3) 2^{20}
 - (4) 2^{29}
12. RGB values for Blue color 2, 29, 143 respectively. What are the binary numbers of the above values respectively.
- (1) $10_2, 11101_2, 10001111_2$
 - (2) $01_2, 011101_2, 100011110_2$
 - (3) $11_2, 11111_2, 11001111_2$
 - (4) $10_2, 11101_2, 100011100_2$

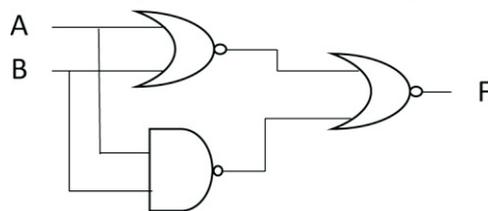
13. What is the binary number equivalent to the decimal number 83?
 (1) 1000101₂ (2) 1010011₂ (3) 1010001₂ (4) 1100001₂
14. What is the decimal value of the BCD value 00111001?
 (1) 79 (2) 93 (3) 39 (4) 161

• Question number 15 and 16 are based on the structure of the following Integrated Circuit.



15. What is the answer that includes input nodes only?
 (1) A, B, D, E (2) I, J, K, H (3) A, F, G, K (4) C, F, G, J
16. What is the output of the node F when the inputs of D and E nodes 1, 0 respectively?
 (1) 0 (2) 1 and 0 (3) 1 (4) 0 and 1
17. What is the binary number equivalent to the octal number 453₈?
 (1) 101100011₂ (2) 100101011₂ (3) 100101110₂ (4) 101101011₂
18. What is the most correct statement about logic gates?
 (1) NOT, NAND, OR are combinational logic gates.
 (2) The mechanism of digital computers, Calculators, Mobile phones and televisions is based on logic gates.
 (3) Digital computers are made by using basic logic gates.
 (4) Logical circuits are a type of circuits, which can build logical states using octal numbers.

19. What are the inputs of the following circuit, when the output is 1?



- (1) 0, 1 (2) 0, 0 (3) 1, 1 (4) 1, 0
20. A siren is activated in a vehicle, when passengers in front sheets aren't wearing seat belts (Including driver) and one passenger isn't wearing the seat belt.
 Identify the logic gate relevant to above incident.
 (1) AND (2) OR (3) NOR (4) NAND

21. What aren't belong to the system software?
 (1) Task manager. (2) Compiler.
 (3) Web browser. (4) Windows 10.
22. Consider the following sentences and answer to the question.
 A - File management.
 B - Correcting grammar mistakes in a document.
 C - Providing user interfaces.

What are the basic tasks of an operating system?

- (1) Only A and C. (2) Only A and B. (3) Only B and C. (4) A, B and C.
23. Select the correct answer by considering the correct matching order of two columns.

Description	Utility software
1. Identifying and removing malware	A. Backup software.
2. Providing capability to store valuable files in another place.	B. Disk defragmentation.
3. Reducing the size of files with high capacity.	C. Antivirus software.
4. Making a single free space by adding scattered free spaces in a hard disk.	D. Files/ Data compressing.

- (1) A, C, B, D (2) A, C, D, B (3) C, A, B, D (4) C, A, D, B
24. Mr. Ruwan wants to install two operating systems (Windows 10 and Ubuntu) in his computer. What is the most important step that Ruwan should follow?
 (1) Partitioning the Hard disk.
 (2) Setup a new Hard disk to the computer.
 (3) Formatting the existing hard disk.
 (4) Defragmenting the existing hard disk.

• Answer to the questions from 25 to 27 using following table.

		Time frame	
May	June		

25. What is the component that is used to format the cell 'Time Frame'?
- (1) Cell Margins (2) Merge cells
(3) Split cells (4) Grid lines
26. What is the most suitable component which was used to change the form of the texts May and June?
- (1) Align Left (2) Align Center
(3) Text Directions (4) Text Effect
27. The dark area is divided into four columns and two rows after inserting the table. What is the component is used to format the dark area as above?
- (1) Split cells (2) Split table (3) Auto fill (4) Grid lines
28. The answer of simplifying $2^3 / (5 - 1^3) * 5$ is?
- (1) 10 (2) 17 (3) 13 (4) 40
29. What is the result of pressing Ctrl with Home key at once in a spread sheet?
- (1) Shifting one row to the upper direction.
(2) Shifting to the A1 cell.
(3) Shifting to the edges of the data range.
(4) Shifting to the last row of the spreadsheet.

- **Following spreadsheet displays the calculated percentage of the monthly income of the first term in 2018 of a book shop. Answer the questions 30 and 31 by using it.**

	A	B	C
1	Month	Income	As a percentage
2	January	Rs. 24,500.00	36.62%
3	February	Rs. 14,000.00	20.93%
4	March	Rs. 21,600.00	32.29%
5	April	Rs. 6,800.00	10.16%

30. What is the answer displayed in the cell A6, if the formula =count (A1:C5) was inserted to the cell A6.
- (1) 8 (2) 15 (3) 12 (4) 7

31. What is the most suitable graph type to show monthly income as a percentage?
- (1) Bar chart. (2) Pie Chart
(3) XY Scatter Chart (4) Line Chart
32. Select the component that is used to select prepared slides styles or customize the slides.
- (1) Work Space (2) Custom Animation
(3) Layouts (4) Slide pane
33. Select the answer that includes the correct steps of inserting audio file to a multimedia presentation.
- (1) Insert Media Audio
(2) Format Media Audio
(3) Design Media Audio
(4) Effect Media Audio
34. A - Full screen preview of a slide can get by pressing F5 key.
B - A new slide can be inserted to a slideshow by using the shortcut keys Ctrl+M.
C - Pressing 'Delete' key allows to exit from the preview of a slide.

From the above 3 sentences,

- (1) Only B correct.
(2) B and C correct.
(3) Only C incorrect.
(4) A and B incorrect.
35. Select the component, which can be used to change the order of the slides.
- (1)  (2)  (3)  (4) 
36. What is the correct statement about one to many relationships of a relational database. (Imagine X and Y are two tables).
- A - A record of the X table can be connected with multiple rows of the Y table.
B - Data of the foreign key field, can be duplicated.
C - The records of the Y table must be connected with the relevant records in X table.
- (1) Only A and B correct. (2) Only A correct.
(3) Only B and C correct. (4) All statements are correct.

37. An example for the key field of a database table which includes the details of an employee of a work place can be,
- (1) Date of appointment.
 - (2) Identity number of the employee.
 - (3) Name of the employee.
 - (4) Address of the employee.

- **Following table contains the items of a shop. Answer the questions 38 and 39 using the table.**

Item_Num	Item_Name	Quantity	Unit_Price
B001	CR Book 40p	52	45
B002	Pen	120	12
B003	Pencil	10	8

38. Select the answer that includes number of records and number of fields of the above table respectively.
- (1) 3, 5
 - (2) 4, 3
 - (3) 3, 4
 - (4) 3, 16
39. What is the data type which is suitable for the field "Item_Num" ?
- (1) Text
 - (2) Boolean
 - (3) Number
 - (4) Currency.
40. With the development of information technology, various protection methods are used to ensure the security of the information. What are the latest methods used to secure the information?
- (1) Passwords.
 - (2) Patterns.
 - (3) Finger prints.
 - (4) Two factor authentication.



PROVINCIAL DEPARTMENT OF EDUCATION NORTH WESTERN PROVINCE

THIRD TERM TEST - 2018

Grade 10 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) Convert the hexadecimal number ABD_2 to the relevant octal number. (02 marks)
- (ii) What are the components identified by WIMP in a Graphical User Interface? (02 marks)
- (iii) Match the column A with column B correctly. (02 marks)

A	B
1. Calculator	w. Multi user operating systems.
2. Linux	x. Single user operating systems.
3. Windows 7	y. Multi-tasking operating systems
4. MS DOS	z. Real time operating systems.

- (iv) What are the advantages of using a laptop computer rather than using a Desktop computer? (02 marks)
- (v) Write the input devices respectively, which can be used to input a photograph to the computer and mark a MCQ paper (02 marks)
- (vi) Write the English letter relevant to each sentences and state whether they are true or false. (02 marks)
- (a) A file extension for a file type of word processing software can be '.docx'.
 - (b) A nibble can be identified as a half of a byte.
 - (c) Infrared can't be used to connect a keyboard to a computer.
 - (d) Web browser can be an example for an application software. (02 marks)
- (vii) Write a device that can be connected to the following ports.
- (a) PS/2 Port
 - (b) Parallel port -
 - (c) HDMI Port
 - (d) RJ45 Port
- (viii) State two examples for the half duplex data transferring method. (02 marks)
- (ix) Fill in the blanks of the following sentences by using the given word list.
- (a) can be considered as a method to take hard copies.

- (b) gives the first output of a computer screen.
- (c) can be taken as primary memory of a computer.
- (d) of hertz included in one Megahertz.

(1000 / Firmware / RAM / Printer / 1024 / Computer screen). ($\frac{1}{2} \times 4 = 2$ marks)

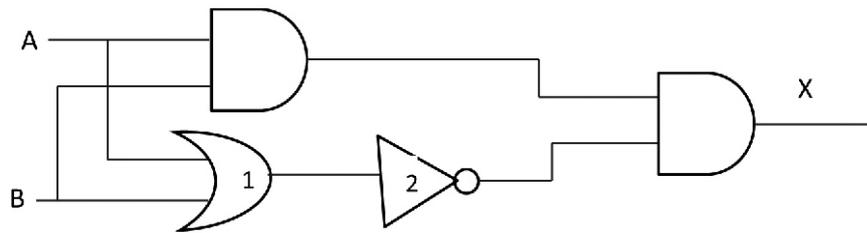
- (x) Name 4 objects which are added to a slide of a presentation. (02 marks)

(02) Fifteen grade 10 students of Wijayaba school were doing a practical by using computers in the school laboratory. Suddenly, all computers switched off due to a power failure. When the computers are switched on, the letters of five students were kept as it is and others' letters were removed from the computer memory.

Provide short and direct answers for the following questions by using above incident.

- (a) (i) Describe the reason briefly for keeping the letters of five students and removing of other letters from the computer memory. (02 marks)
- (ii) What is the memory that stores the removed letters ? (01 mark)
- (iii) List down two volatile memory devices and two non- volatile memory devices in a computer. (02 marks)
- (iv) State one example for each printer categories, 'Impact' and 'Non-Impact'? (01 mark)
- (b) (i) State whether the following sentences are 'True' or 'False' at the end of each sentence. ($\frac{1}{2} \times 2 = 1$ mark)
 - (a) A computer network which spreads in a single building, can be considered as a local area network. (.....)
 - (b) A router can be used to build up a network of a computer laboratory. (.....)
 - (c) WI-FI can be considered as radio waves, which is used as a medium to provide internet to your computer. (.....)
 - (d) Firewall is used to secure a computer network. (.....)
- (ii) Explain three types of computer networks according to the geographical distribution. (02 marks)

- (03) (a) Consider the following circuit diagram and provide answers to the questions given below.



- (i) Write the Boolean expression for the above logic circuit. (01 mark)
- (ii) Write outputs for the given outputs according to the above logic circuit. (02 marks)

A	B	X
0	0	
0	1	
1	0	
1	1	

- (iii) State a single logic gate which can be used instead of the logic gates 1 and 2. (02 marks)

- (b) (i) Convert the hexadecimal number $3DF_{16}$ to the relevant octal number. Steps should be mentioned clearly. (02 marks)
- (ii) Convert the number 83_{10} to the relevant binary number. Steps should be mentioned clearly. (01 mark)
- (iii) Write the maximum number of characters that can be represented by using each of following coding systems. (02 marks)

- (a) BCD
- (b) ASCII
- (c) EBCDIC
- (d) Unicode

- (04) Following spread sheet is used by a spareparts importing and selling company in order to find the selling prices and calculate the income and net profit of selling stocks.

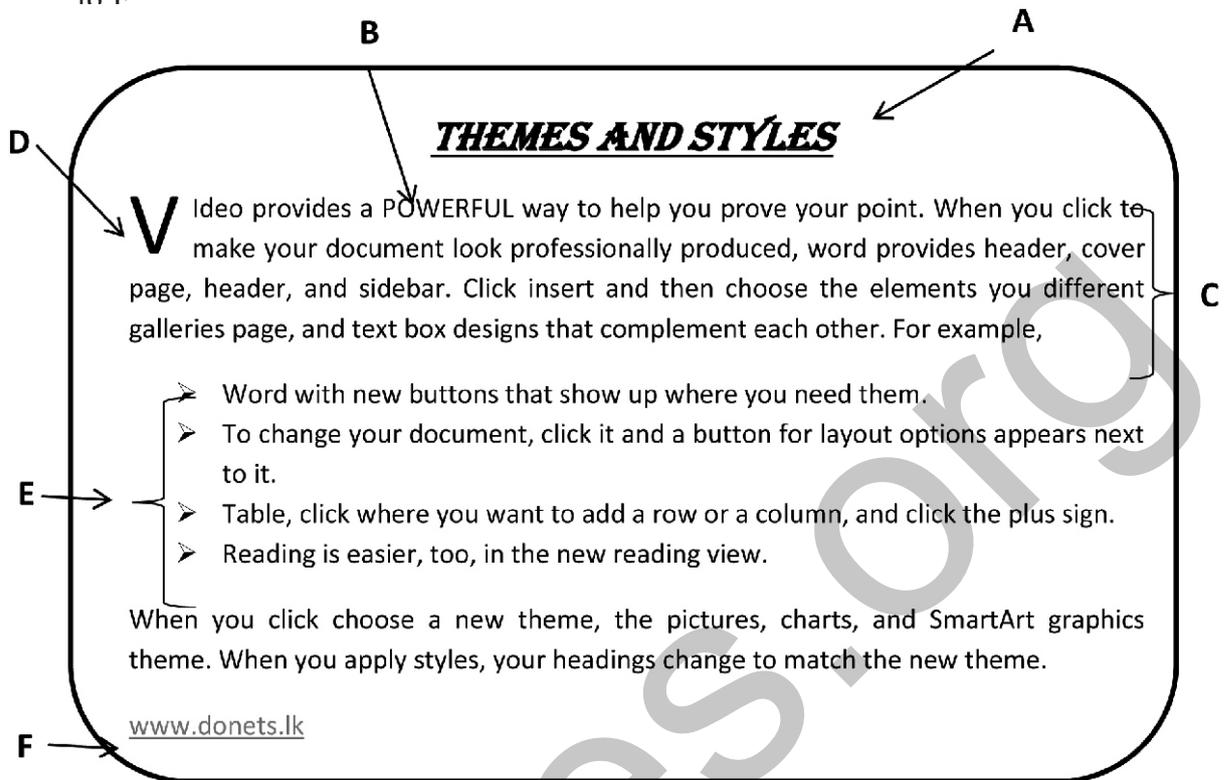
- Currency for importing goods is paid by dollars. Exchange rate of a dollar includes in H2 cell. (1 American dollar = Rs. 135).
- Expected profit percentage includes in H3 cell.
- Cost for importing goods is calculated in rupees.
- List of goods includes in the cell range A7 to A13 and unit prices include in the cell range B7 to B13 and number of goods to sell is included in the cell range D7 to D13. Formulas relevant to other cells are copied by using filling handle.

- **Selling price per unit = Unit cost * Expected profit percentage + Unit cost.**
- Formulas in C7, E7, F7, G7, H7 and I7 cells are copied into the relevant cell ranges and correct answers should be get in to the relevant cells.
- If the values included in H2 and H3 cells are changed, data in the table are updated accordingly.

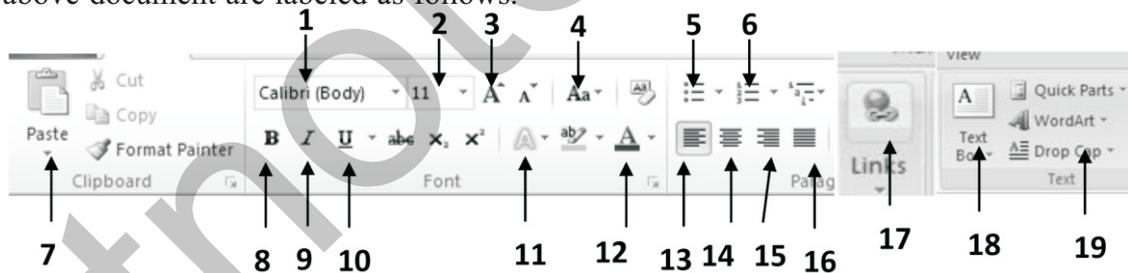
	A	B	C	D	E	F	G	H	I
1	Expected earnings and profit								
2		Exchange rate of a dollar						Rs. 135.00	
3		Expected profit percentage						20%	
4									
5	Description of goods	Unit price		Number of units to sell	Total cost Rs.	Unit cost Rs.	Selling price per unit Rs.	Expected profit by selling. Rs.	Expected earning by selling Rs.
6		Dollar	Rupees						
7	Head light	48		70					
8	Signal light	32		120					
9	Side mirror	20		85					
10	Seat	10		125					
11	Tyre	8		75					
12	Rim	18		75					
13	Side guard	22		100					
14									
15	Total cost								
16	Expected earning								
17	Expected profit								
18	Lowest costed good								
19	Highest costed good.								

- What is the formula that should be written in cell C7 to get the price of goods? (02 marks)
- What is the formula which should be written in the cell E7 to get the total cost of head lights? (01 mark)
- What is the formula that should be written in cell F7 to get the unit cost of a head light? (01 mark)
- What is the formula that should be written in cell G7 to get the selling price of a head light? (02 marks)
- What is the formula that should be written in the cell H7 to get the expected net profit of selling head lights? (01 mark)
- Write the excel formulas in given cell addresses for the following cases?
 - Total cost (B15).
 - Lowest costed good (B18).
 - Highest profitable good (B19). (03 marks)

(05) (a) A document was designed by using a word processing software has been labeled as A to F



The components of the interface of word processing software which is used to design above document are labeled as follows.



Write the number/numbers relevant for the following tasks (No marks are given if you mention more than one tool).

- (i) Write two tools which can be used to format the title A.
- (ii) What is the component which is used to format the letters of the word mentioned as B?
- (iii) What is the alignment type which is used for the paragraph C?
- (iv) To format the text as D?
- (v) To make the bullet list as E?
- (vi) To give the hyperlink in F? (1 x 6 = 6marks)

- (b) (i) Write two important points in making a qualitative multimedia presentation (E-Presentation). (02 marks)
- (ii) Give two of multimedia files which can be included to E – Presentation. (02 marks)

(06) “New Tech” is an educational institute and there are four tables in the database.

Student Table

Stno	Stname	Contact	City
St001	Meneth	112833669	Colombo
St002	Kvindu	372833670	Kandy
St003	Minila	112833671	Colombo

Kavindu

Lecturer Table

Lec Id	Lec_Name
L030	M.Tharusha
L031	L. Frenando
L033	P. Kelum

Course Table

Course ID	Course	Fee	Lec_Id
C001	Progrmming	\$ 200.00	L030
C002	Graphic	\$ 300.00	L033
C003	Programming	\$ 150.00	L033
C004	Networking	\$ 170.00	L031

Student_course Table

Stno	Course_ID	Day	Lecture_hall
S001	C001	Monday	Hall 01
S001	C002	Wednesday	Hall 03
S002	C003	Tuesday	Hall 06
S002	C004	Tuesday	Hall 01
S003	C002	Friday	Hall 03

- (i) Write two primary keys with relevant tables. (01 mark)
 - (ii) Write two foreign keys with relevant tables. (01 mark)
 - (iii) What is the most suitable table to include the field 'Student_address'? (02 marks)
 - (iv) What are the tables that should be updated if a new course is started? (02 marks)
 - (v) Write the new record with the relevant table (Course ID – C005, Course – 3D Animation, Course fee - \$ 150.00, Conducted by Lecturer L031). (02 marks)
 - (vi) What are the tables that should be connected to execute a query to get the details about the course -of the student 'Menath'? what is the type of connection between those tables? (02 marks)
- (07) Mr. Suresh prepared Curriculum Vitae (A document) and saved it in his computer. He had wanted to get it when he was in his office. He downloaded it using “Cloud Computing” concept by using his smart phone.
- (i) Explain the concept 'Cloud computing', with examples. (02 marks)
 - (ii) Write two advantages of using 'Cloud computing'. (02 marks)
 - (iii) Write two software that can be used to prepare the above document by the smart phone. (01 mark)
 - (iv) Write two types of data transferring media that can be used by Mr. Suresh to get a photograph of his friend immediately. (01 mark)
 - (v) Write 4 parties who can get the services of E-Government. (02 marks)
 - (vi) Explain the 'Green computing concept'. (02 marks)

Answer Sheet

Final Term test – 2018 Grade 10

Information and Communication Technology

First Paper

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

Second Paper

1)

a) $AB2_{16} = 5262_8$ - 1 mark for the steps and 1 mark for the final answer.

b) W – Windows I – Icons M- Menus P- Pointer.

c) 1- Z, 2- W, 3 – Y, 4 – X.

d) Ability to use with battery power for a considerable time period /
Portability / No need to use a screen when showing something to few
people / Takes a small physical space.

e) Flatbed scanners / Optical mark readers

f) a - True b - True c - False d - True.

g) i. Keyboard, Mouse ii. Printer iii. Digital T.V, multimedia projector
iv. Router, switch

h) Walki - Talki, Fax.

i) A - Printer B - Computer screen C - RAM D - 1000

j) a - Multimedia projector. b - W

2) A. (i). 5 students saved the document in hard disk and it is in the secondary memory after saving.

(ii). The document is in primary memory / Volatile memory.

(iii). Volatile memories - Hard Disks, Floppy Disks.

Primary memories - RAM, ROM, Cache memory.

(iv). Impact printers - Dot matrix printers.

Non - impact printers - Laser printer.

B. (i). a - True b - False c - True d - True

(ii). Naming and explaining of LAN, WAN, MAN - 2 marks.

3) A. (i) A.B . (A+B)'

(ii)

A	B	x
0	0	1
0	1	0
1	0	0
1	1	1

(iii) Two marks are given for naming and redrawing of the NOR Gate.

B. (i) $3DF_{16} = 001 / 111 / 011 / 111 = 1737_8$

3=0011

D=1101

F=1111

(ii) $83_{10} = 1010011_2$ (Steps should be mentioned clearly).

(iii) 16/126 /256 /65536

4)

1. =B7*H\$2 (2 Marks)
2. =C7*D7 (1 Mark)
3. =E7/D7 (1 Mark)
4. =F7*H\$3+F7 (2 Marks)
5. =I7-E7 (1 Mark)
6.
 - a. =SUM(E7:E13) (1 Mark)
 - b. =MIN(E7:E13) (1 Mark)
 - c. =MAX(H7:H13) (1 Mark)

5) (A) (i) 8,9,10,11,14

(ii) 4

(iii) C –16

(iv) D –19

(v) E –5

(vi) F – 17

(B) (i) - Number of sentences / Lines.

- Size of the letters.

- Accuracy of spelling and grammar.

- Color.

- Targets of the presentation should be realized.

- Animations and videos should be in one slide. When you are inserting Pictures, Tables, Graphics and Graphs, only 2 of them should be inserted in one slide.

- 6) (i) Student Table – StNo
Course Table – Course_ID
Lecture Table - Lec_Id

(ii) Course Table - Lec_Id

Student Course Table – StuNo

(iii) Student Table

(iv) Course Table

(v) Course Table

<u>CourseID</u>	Course	Fees	Lec-Id
C005	3D Animation	\$150	L031

(vi) All of the above tables.

7) Marks can be given for the correct and relevant answers.