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## Southern Provincial Department of Education

### Year End Test - 2017

#### Information and Communication Technology - I

#### Grade 10

Name / Index No. ....

Time - 1 hour

**Important:**

- Answer the all question.
- In each of the question 1 to 40, pick one of the alternatives (i), (ii), (iii), (iv) which is correct of most appropriate.
- Put a cross "X" on the answer sheet provided, relevant to the answer you selected.

- (1) Which of the following can be considered as an information?
- (i) An unlabeled graph (ii) A pupil's marks for mathematics  
 (iii) Weather forecast for tomorrow. (iv) Price of a pen
- (2) "When data is (A) ..... via an information system, its (B) ..... takes place and information is given as (C) ....."  
 Choose the most suitable answers to fill A, B, and C blanks respectively?
- (i) process, input, output (ii) input, process, output  
 (iii) output, process, input (iv) input, output, process
- (3) Which of the following answers includes parts of the central processing unit only of a computer?
- (A) Arithmetic and Logic Unit  
 (B) Control Unit  
 (C) Hard Disk  
 (D) Memory Register
- (i) A, C, D (ii) A, B, C (iii) B, C, D (iv) A, B, D
- (4) What is the correct row matching facts about bar code reader and digital versatile disk (DVD)?

Row	Bar code Reader	Digital Versatile Disc
A	Input Device	Output Device
B	Input Device	Storage Device
C	Storage Device	Output Device
D	Output Device	Input Device

- (i) A (ii) B (iii) C (iv) D
- (5) Which of the following Computer Generation is used VLSI (Very-Large-Scale Integrated Circuits)?
- (i) For first generation computers  
 (ii) For second generation computers  
 (iii) For third generation computers  
 (iv) For fourth generation computers

- (6) Which of following statement is incorrect regarding the Hub and the switch?  
 (i) data transmission speed of Switch is greater than that of Hub.  
 (ii) In data transmission, the switch sends data only to the target computer.  
 (iii) In data transmission, the Hub uses half duplex mode while the Switch uses full duplex mode.  
 (iv) In data transmission, the Hub sends data only to the target computer.
- (7) In data transmission, (A) ..... form is used to send data from sender to the receiver only. (B)..... is used to send data in one direction at a time and (C)..... is used to send data in both directions at once.  
 What is the answer given by (A), (B) and (C)?  
 (i) simplex, half-duplex, full duplex (ii) full duplex, simplex, half-duplex  
 (iii) half-duplex, full duplex, simplex (iv) full duplex, half-duplex, simplex
- (8) (A)....., which is used as a security barrier between internet and computer network is available in both software and (B) ..... forms. Choose the correct answer for A and B blank respectively.  
 (i) Hardware and Firewall (ii) Modem and Hardware  
 (iii) Firewall and Hardware (iv) Software and Hardware
- (9) Which of the following binary number is equivalent to  $130_{10}$ ?  
 (i)  $10000010_2$  (ii)  $1000010_2$  (iii)  $10000011_2$  (iv)  $10101100_2$
- (10) Value of hexadecimal represent 'D' is  
 (i)  $1100_2$  (ii)  $1110_2$  (iii)  $15_{10}$  (iv)  $15_2$
- (11) When correct  $11001010_2$  into octal and hexadecimal the correct answers respectively are?  
 (i)  $322_8$  and  $9A_{16}$  (ii)  $312_8$  and  $C2_{16}$  (iii)  $421_8$  and  $C10_{16}$  (iv)  $521_8$  and  $AC_{16}$
- (12) If in ASCII 70 is the decimal values of F, what is the binary value of B?  
 (i) 1000001 (ii) 1000011 (iii) 1000010 (iv) 1000110
- (13) Which of the following is an invalid code of the BCD coding system.  
 (i) 0111 (ii) 1001 (iii) 1011 (iv) 1000
- (14) The correct answer for the number of bits equivalent to 4MB is,  
 (i)  $1024^1 \times 8 \times 4$  (ii)  $1024^2 \times 8$  (iii)  $1024^1 \times 8 \times 4$  (iv)  $1024^1 \times 8$
- (15) Which of the following answers correctly indicate the most significant digit (MSD) and least significant digit (LSD) respectively of 0.50157  
 (i) 0 and 7 (ii) 9 and 7 (iii) 0 and 0 (iv) 5 and 7
- (16) A student can choose bread (A) or string hoppers (B) with potato curry(C) or dhal (D) for his breakfast. What is the Boolean expression for the above scenario.  
 (i) (A AND B) AND (C OR D) (ii) (A OR B) AND (C OR D)  
 (iii) (A AND B) OR (C OR D) (iv) A AND B OR C OR D
- (17) What is the logic gate expressed by the given truth table.

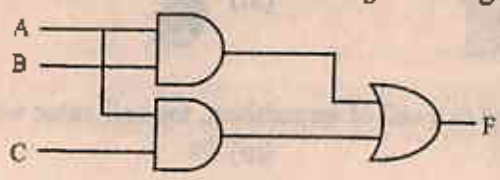
A	B	F
0	0	1
0	1	1
1	0	1
1	1	0

- (i) AND gate  
 (ii) NOR gate  
 (iii) NAND gate  
 (iv) OR gate



(18) If the output of the circuit  $F=0$ , which of the following answer give the correct values of A,B and C respectively.

- (i)  $A=0, B=1, C=1$
- (ii)  $A=1, B=1, C=0$
- (iii)  $A=1, B=0, C=1$
- (iv)  $A=1, B=1, C=1$



(19) Which of the following indicates examples for utility software.

- (i) disk formatting, Word processing software and compiler.
- (ii) disk formatting, disk partitioning and fragmentation.
- (iii) screen server, anti virus software and spread sheet software
- (iv) presentation software, interpreter and disk formatting.

(20) Which of the following answers correctly indicate operating systems which allows multiple users for use the system simultaneously?

- (i) Linux, Windows Server
- (ii) Windows 7, Ubuntu
- (iii) MS Dos, Windows Server
- (iv) Linux, Mac OS

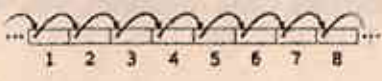
(21) Providing a user interface is a function of (A).....; (B)..... and (C)..... are the two types of interfaces provided. Which of the following indicates the A, B and C respectively.

- (i) application software, graphical user interface, command line interface
- (ii) application software, system software, command line interface
- (iii) system software, graphical user interface, command line interface
- (iv) operating system, command line interface, graphical user interface

(22) Saving a large file, system splits it into several pieces, but it is not being saved continuously. This reduces efficiency of computer. Which of the utility software improves efficiency of this process?

- (i) Data Compression software
- (ii) disk scanner
- (iii) defragmentation
- (iv) Anti virus software

(23) The given diagrams indicates the two methods used for accessing the files in operating system level. Pick the correct answer for two diagrams of file accessing, respectively.



- (i) sequential access, random access
- (ii) random access, sequential access
- (iii) sequential access, read only memory
- (iv) random access, Internet access

(24) Which of the following icon is not Quick Access Toolbar.

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



(25) Which of the following indicates the two orientation models of a word processing software?

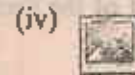
- (i) Landscape and Page Setup
- (ii) Portrait and Indentation
- (iii) Portrait and Landscape
- (iv) None of the above

(26) Ctrl+H, shortcut key is used in word processing for .....

Choose an appropriate sentence to fill the blank.

- (i) replacing words
- (ii) opening the document
- (iii) finding the word
- (iv) saving the document

(27) Which of the following tool can be used to insert a hyperlink to a text document?



(28) If the formula  $=2^4+5*2$  is entered to a cell of spreadsheet, the cell value will be

(i) 18

(ii) 22

(iii) 24

(iv) 26

(29) What is the function available in spreadsheet for calculating the average of a selected range?

(i) =Average()

(ii) =Max()

(iii) =Sum()

(iv) =count()

Use the given spreadsheet to answer the questions 30 and 31.

(30) What is the formula that should be entered in cell B7 to find the total number of cells containing numeric values within B1:C6 cell range.

(i) =Max(B1:C6)

(ii) =Min(B1:C6)

(iii) =count(B1:C6)

(iv) =Sum(B1:C6)

	A	B	C
1		55	5
2		63	63
3		52	63
4		63	36
5		63	52
6		63	36
7			

(31) Which of the following will be shown in B7, if you entered the correct formula in cell B7 in the above question.

(i) 10

(ii) 11

(iii) 12

(iv) 9

(32) "H2" is (A) ....., while "\$H\$2" is..... (B). Choose the correct answer for (A) and (B), respectively.

(i) row absolute cell reference and column absolute cell reference

(ii) relative cell reference and column absolute cell reference

(iii) column absolute cell reference and relative cell reference

(iv) relative cell reference and column and row absolute cell reference

(33) Which of the following object can be used only in a presentation software when comparing with word processing software is,

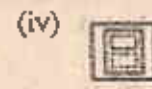
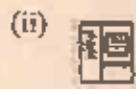
(i) Pictures

(ii) Chart

(iii) Video Clip

(iv) Hyperlink

(34) Which of the following icon is used in presentation software to view the presentation in side shorter view, to easily arrange the sides.



(35) The keys which are used to display the next slide and the previous side of a slide show respectively are

(i) N and B

(ii) N and W

(iii) N and P

(iv) P and N

(36) A presenter uses a presentation software in slide show mode and during his presentation he wants to draw the attention of the audience towards him for few minutes by hiding the content of the current side. Which key should he press?

(i) F5

(ii) P

(iii) F1

(iv) B

Use the given database to answer the questions 37, 38, 39 and 40.

Product_Code	Product_Name	Unit_Price	Quantity	Supplier_ID
B100	Milo	Rs. 50	10	S01
B101	Ice Cream	Rs. 35	12	S02
B102	Chocolate	Rs. 50	8	S01
B103	Egg Bun	Rs. 25	10	S03

(37) Which of the following indicates the number of fields and records of the given table.

- (i) 5 and 5                      (ii) 5 and 4                      (iii) 4 and 5                      (iv) 6 and 5

(38) Which is the most suitable field for the primary key.

- (1) Product\_Code                      (2) Unit\_Price  
(3) Supplier\_ID                      (4) Product\_Name

(39) What is the most suitable data type for the Unit\_Price?

- (i) OLE Object                      (ii) Text  
(iii) Number                      (iv) Currency

(40) Which of the following only includes examples for database management software only?

- (i) MS Access, Base and Oracle                      (ii) VisiCalc, MS Access and MS Excel  
(iii) Oracle, SQL and MS Excel                      (iv) Ms Access, Ms Excel and Oracle

Project Code	Project Name	Year	Quantity	Page No.
1101	Log Site	1950	10	101
1102	Clearing	1950	2	102
1103	Log Camp	1950	10	103
1104	Site	1950	10	104

(1) 1950-1951

(2) 1952-1953

(3) 1954-1955

(4) 1956-1957

(5) 1958-1959



# Southern Provincial Department of Education

## Year End Test - 2017

### Information and Communication Technology - II

#### Grade 10

Name / Index No. ....

Time - 2 hours

Answer five (05) questions only, selecting the first question and four(04) others.  
 First question carries 20 marks and each other question carries 10 marks.

- (01) I. Dihansa, a student designs a simple electronic circuit by using a dry cell, a bulb and few wires. Write down the input and output of the process separately.  
 II. Identify the following symbols precisely.



(a)



(b)



(c)



(d)

- III. The RGB value of dark blue is 38, 25, 209. State the binary code of 209.  
 IV. Kavindu says that, in Boolean algebra  $x.1=x$ . Prove this using a truth table.  
 V. State two differences between graphical user interface (GUI) and command line interface (CLI)  
 VI. Thesaurus is a facility in word processing software. Indicate its function briefly.  
 VII. Simplify the given equation,  $=2^3/(5-2^2)+4$   
 VIII. Identify the following icons available in presentation software.

(1)

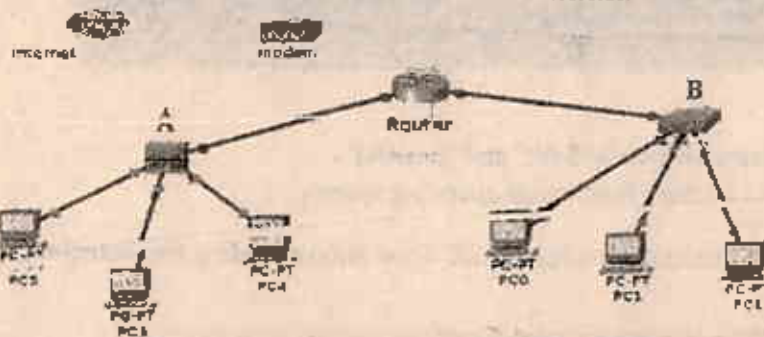


(2)



- IX. What is meant by data encryption?  
 X. What are the cyber crimes?

- (02) Given below is a computer network connected with the Internet.



- I. A and B are different devices which performs the same function. Identify A and B separately.  
 II. State two main differences between A and B.  
 III. State the function of modem and router separately.  
 IV. A and B are geographically located in a wide area. Indicate the most suitable cable type that can be used to connect A and B to the router. Give reasons for your answer.  
 V. Indicate the most suitable data transmission media type for following.  
 a. Remote controller of an air condition machine.  
 b. To share a picture between near by two mobiles.  
 c. for closed circuit television (CCTV) cables  
 d. communication over the Internet

(03) a) To start a full automatic motor vehicle, following requirement should be met compulsorily.

- a. Driver seated on driver seat (S)
- b. pressing start button (B) or driver wearing seat belt (T).

For start a full automatic motor vehicle, Driver on driver seat (S) and pressing start button (B) or wearing seat belt (T) should be compulsorily.

- I. develop a suitable Boolean expression for the above scenario.
- II. Draw a truth table for the Boolean expression you developed.

b) I. Copy the following table to your answer sheet and fill it using a given software.

Software:- Linux, Task manager, Google chrome, Windows 7

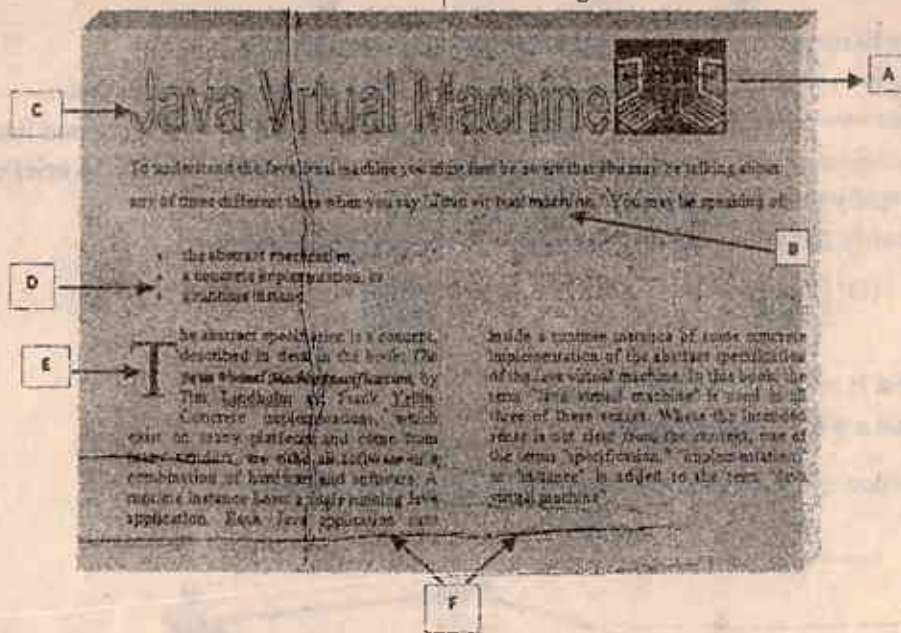
Operatøn System		Application Software	Utility Software
Free and Open Source	proprietary software		

II. In windows operating system, disk defragmentor can be approached following the given pathway.

All Programs -----> Accessories -----> System Tools -----> Disk Defragmenter.

What is the function performed by Disk defragmentation?

(04) a) Given bellow is a document created using a Word Processing software. Then it was formatted using some common tools available in it. Write down the formatting tools used in A to F labels separately.



- b) I. What is the difference between "Save" and "Save As".
- II. Briefly describe two main function of operating system.

(05) Following spreadsheet indicates daily sales of ABC Food Shop including five branches. Using it, answer the following question.

1. Complete this table using functions

2.

3.

4.

5.

ABC Food Shop Daily Sales

Day	Qibanda	Kandy	Galle	Gangaha	Nuwara Eliya	Sales Total
15th	204000	195150	212200	15880	14020	671340
16th	129000	112870	187410	0	20000	449280
17th	0	8500	197000	7150	15000	223650
18th	381000	29110	0	15000	13000	429110
19th	197400	0	22000	20040	0	419440
20th	220800	123150	124880	23300	11100	502330
21st	475000	287870	223500	15540	9000	1091710
Sales Total	1643200	661620	1297120	36810	33020	3703770
Average	273866.7	110270.0	216186.7	6135.0	5503.3	617295.0



- I. State the formula that you should write in cell H6 to calculate the sales total on 15<sup>th</sup> Sunday. (without using function)
- II. State the function that should be entered to cell C14 to calculate the weekly sales average of the Colombo outlet.
- III. State the function that should be entered to cell I 6 to find maximum value of daily sales of 15<sup>th</sup> Sunday. (that function can be copied from I 7 to I 12 to calculate the maximum value of each days)
- IV. If you are requested to indicate the daily sales in a chart, what is the most suitable chart type ?
- V. Some time "#####" can be seen within the cells which contains data in spreadsheet. What is the reason for that?

06) Sathyanjali is a self employed lady, who manufacturing sweets and distributes among mobile traders. She has created database including her business information.

Producer Table

P_ID	Product Name	Manufacturing Date
P01	Kokis	07/21
P02	Oil Cake	07/21
P03	Kiri toffee	07/22
P04	Asmi	07/25
P05	Mun guli	07/30

Distribution Table

B_ID	Distribution Date	P_ID	Count
BM01	07/22	P01	20
BM02	07/22	P03	25
BM02	07/25	P04	35
BM03	07/30	P05	45
BM01	08/01	P02	60

Business Table

B_ID	Businessman Name	Phone_nu
BM01	Perera	071#####
BM02	Mahinda	077#####
BM03	Kovil	075#####
BM04	Siva	072#####

- I. Write down two primary keys that can be used in this database with their respective table.
- II. Indicate the data type of the fields in Distribution\_Table.
- III. Sathyanjali introduced a new sweet "Kalu dodol" on 5<sup>th</sup> August. She sent 15 to pieces to Perera on 6<sup>th</sup> August.
  - a) What is/are the table/tables should be updated.
  - b) Write down only the new row/ rows of the updated table/ tables.
- IV. What are the queries of database? Explain it using an example from above tables.

- 07)I. Nethmi says that it's not suitable to engage in computer games continuously. Explain this with two reasons.
- II. Using of Facebook is generalized Today. Write down three restrictions we should use in social media.
- III. There are two main ways to infect computer viruses.
  - a. Connecting external devices
  - b. Networking of computers.
 Write down two methods you can follow to prevent the computer virus.
- IV. Describe two application of computer based teaching-learning process them the traditional teaching-learning process.

The first part of the paper discusses the general theory of the subject, and the second part discusses the application of the theory to the case of the ...

The following table shows the results of the experiments conducted under the following conditions:

Series	Temperature (°C)	Time (min)	Weight (g)
1	20	10	1.2
2	25	15	1.5
3	30	20	1.8
4	35	25	2.1
5	40	30	2.4

Series	Temperature (°C)	Time (min)	Weight (g)
6	45	35	2.7
7	50	40	3.0
8	55	45	3.3
9	60	50	3.6
10	65	55	3.9

The results of the experiments show that the weight of the substance increases with both temperature and time. The rate of increase is greater at higher temperatures and longer times.

The following graph shows the relationship between temperature and weight for the experiments described above.

It is seen from the graph that the weight of the substance increases linearly with temperature. This indicates that the process is a first-order reaction.