



Provincial Department of Education - NWP  
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Provincial Department of Education - NWP  
G I T E I  
Provincial Department of Education - NWP

**Second Term Test - Grade 12 - 2018**

Index No : ..... **General Information Technology I** **One Hour**

**Important**  
**Answer all questions.**

1. Which of the following is/are true about the computer system?
  - A - The cache memory, which is located in the processor retain data only until the power is supplied to it.
  - B - Basic Input Output System (BIOS) reads the relevant Master Boot Record (MBR) at the start of the computer boot up process.
  - C - The Hard Disk memory that is also a secondary storage media remain unerased even when the power supply is disconnected

(1) A and B only      (2) A and C only      (3) B and C only      (4) all A ,B and C
2. Which of the following is contain in the CPU of the computer?
 

(1) RAM                      (2) CU                      (3) ROM                      (4) Cache L3
3. Consider the following statements with respect to an ATM. Which of the following represents an information?
  - (1) The bill that is received from an ATM machine.
  - (2) ATM Card
  - (3) Password of the ATM
  - (4) Checking the account balance
4. Which of the following specification is used to connect a projector, monitor or modern television to a computer?
 

(1) Mother Board      (2) chipset                      (3) Ports                      (4) slots
5. What is the approximate number of 700 MB Video files that can be stored in 2 GB memory card?
 

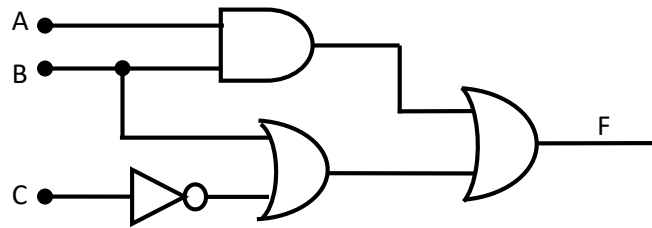
(1) 2                      (2) 2995                      (3) 299                      (4) 29
6. What is the binary equalent to decimal 76?
 

(1) 1011110<sub>2</sub>                      (2) 1010100<sub>2</sub>                      (3) 1010111<sub>2</sub>                      (4) 1001100<sub>2</sub>
7. Which of the following is equalent to binary 10011101<sub>2</sub> ?
 

(1) 157                      (2) 913                      (3) 532                      (4) 171
8. What is the size the memory that is consumed to represent word " Byte " using unicode encoding method,
 

(1) 6 byte                      (2) 8 byte                      (3) 16 byte                      (4) 64 byte

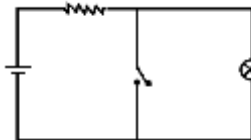
9. Which of the following character encoding method uses 16 bits to represent a character?  
 (1) ASCII (2) Unicode (3) BCD (4) EBCDIC
10. Consider F as the output of the following logic diagram. State the respective values for Q,R,S,T from top to bottom



A	B	C	F
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	--Q--
1	0	1	--R--
1	1	0	--S--
1	1	1	--T--









- (1) 1,1,0,1 (2) 1,1,0,0 (3) 1,0,0,1 (4) 1,0,1,1

11. Which of the following statement(s) is/are true regarding computer memory & storage devices?  
 A- Register memory has the highest speed and the lowest capacity  
 B - Optical Technology is used as the storage method in the compact disk  
 C – Random Access Memory (RAM) is a volatile memory  
 (1) A Only (2) A & C Only (3) A & B Only (4) All A, B & C
12. A car with two doors has a security system which beeps when at least a single door is opened prudently. (Consider input is '0' as the switch offs when the door is closed) Choose the most suitable logic gate for the above scenario  
 (1) NOT (2) AND (3) OR (4) NAND
13. Which of the following logic gate represent the operation of following analog(electric) circuit?



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

14. There are two types of operating systems based on the interface. What are they?  
 (1) Open Source & Licensed (2) Command Line & Graphical user  
 (2) Single user & Multi user (4) Real Time & Batch processing
15. Which of the following file extension is used in word processing software?  
 (1) .docx (2) .xlsx (3) .accdb (4) .swf
16. Which of the following is not considered as a function of an Operating System ?  
 (1) Memory Management (2) Device Management  
 (3) Process Management (4) Software Management
17. Control panel's ..... is used to adjust the the computer's date, time and local language settings.  
 (1) Language and Region (2) Programs and Features  
 (3) Personalization (4) Keyboard

18. Which of the following is considered as a Free & Open source operating system?  
 (1) Windows 8 (2) Apple MAC OS (3) Linux (4) Windows server
19. Which of the following tool in word processing software is used to increase/decrease the space between the lines?  
 (1)  (2)  (3)  (4) 
20. Which of the following is an option in word processing software that is used to send a letter with a same content to different addresses?  
 (1) Merge cells (2) Mail merge (3) Quick Parts (4) Thesaurus
21. Which of the following is correct short key combination to apply a word instead of a another word (Find & Replace) in a word processing application?  
 (1) Ctrl + N (2) Ctrl + R (3) Ctrl + H (4) Ctrl + E
22. Which of the following tool is used to Increase Indentation of a document?  
 (1)  (2)  (3)  (4) 

• Use following spreadsheet segment to answer questions 23 -24

23. What is the respective function for the “FUNCTION1” in C2 cell ?

	A	B	C
1	<b>Name</b>	<b>Average</b>	<b>Place</b>
2	Nimsara	70	4
3	Gihan	55	5
4	Shanika	78	3
5	Gayan	90	1
6	Nadunika	85	2

← =FUNCTION1(B2,B\$2:B\$6)

- (1) SUM (2) RANK (3) PLACE (4) AVERAGE
24. What is the correct answer when function in C3 copies to the cell C6?  
 (1) =FUNCTION1(B6,B\$6:B\$2) (2) =FUNCTION1(B2,B\$6:B\$2)  
 (3) =FUNCTION1(B6,B\$6:B\$10) (4) =FUNCTION1(B6,B\$2:B\$6)
25. .... Key Combination uses to instantly navigate to A1 cell irrespective of the location of active cell in the spreadsheet. Which of the following is most suited to fill the above blank?  
 (1 ) Ctrl + Home (2) Ctrl + ↑ (3) Ctrl + ↓ (4) Ctrl + pg up
26. What is the output of the =4^2/(8-2^2)\*3 equation?  
 (1) 12 (2) -10 (3) 1.333 (4) 62
27. Consider following three functions.  
 A - =SUM(A2,B4:B7) B - =SUM(A2,B4,B7) C - =SUM(B4:B7+A2)  
 Which of the above function(s) is/are valid function(s) ?  
 (1) A- Only (2) B – Only (3) A & B Only (4) All A,B & C
28. Which of the following chart is not suitable to compare the motor accident in 2016 & 2017 with the categorization of motorbike, motorcar, bus and other ?  
 (1) Column Chart (2) Bar Chart (3) Line Chart (4) Pie Chart

29. Consider the following statements related to presentation software:
- A. Images can be inserted to a slide of a presentation software.
  - B. Videos can be inserted to a slide of a presentation software.
  - C. Voice can not be inserted to a slide of a presentation software.

Which of the above statement(s) is/are correct ?

- (1) A Only            (2) A & B Only            (3) B Only            (4) B & C Only

- Use following database table to answer questions 30 ,31 and 32. The table shows Selling items of a computer accessories sales shop.

Product_Id	Product_Name	Quantity	Unit_price	Purchase_Date
PC001	Monitor-17”	05	Rs.7000.00	2017/3/12
PC002	Mother Board	12	Rs.5500.00	2017/3/12
PC003	DVD-ROM	10	Rs.3000.00	2017/4/12
LT001	Laptop Battery	10	Rs.4500.00	2017/8/20
LT002	Laptop RAM -2GB	04	Rs.1500.00	2017/8/20

30. What are the most suitable data type for 'Purchase\_Date' and 'Unit\_price' respectively?
- (1) Date/Time and Number            (2) Currency and Date/Time  
 (3) Date/Time and Currency            (4) Text and Currency

31. How many records are there in the table?
- (1) 4            (2) 5            (3) 6            (4) 25

32. Which of the following is the most suitable field as the primary key of the table?
- (1) Product\_Id            (2) Product\_Name            (3) Unit\_price            (4) Quantity

33. Consider following statements related to Vector graphics.
- A. When storing Vector graphics consume low space compared to Raster graphics
  - B. Quality of the Vector graphics does not change when changing the capacity
  - C. Vector graphics are suitable for high level graphic creations.

Which of the following is/are true?

- (1) A- Only            (2) A & B Only            (3) B & C Only            (4) All A,B & C

34. Which of the following tool in Gimp graphic editing software use to select the matching colour and connected parts/areas?



35. What is the measurement unit use to show the resolution of a graphic which also determines the quality of a digital graphic?

- (1) dpp - dots per pixel            (2) bpp – bits per pixel  
 (3) ppp – pixels per picture            (4) ppi – pixels per inch

36. Which of the following file extension is a “lossy less” file format when compressing?

- (1) JPEG            (2) TIFF            (3) BMP            (4) GIF

37. Which of the following is a free and open source software that used to create raster graphic creation?

- (1) Adobe photo shop            (2) Adobe Illustrator            (3) GIMP            (4) Corel draw

38. Which of the following file extension is an audio file extension ?

- (1) .wmv            (2) .mp3            (3) .swf            (4) .mp4

39. Which of the following tool in Audacity Sound Editing Software used to cut other parts of an audio by keeping the selected segment?



40. What is the correct command used to set the show time of video frame in video editing ?

- (1) Animations → Duration            (2) Home → Duration  
 (3) Home → Add duration            (4) Format → Duration

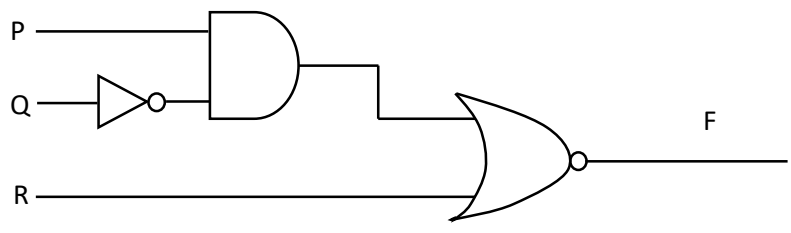


**Second Term Test - Grade 12 - 2018**

Index No : ..... **General Information Technology II** **Two Hours**

**Important**  
**Answer four questions only.**

1) (i) Write the boolean expression for logic circuit in following diagram. Draw related truth table



- (ii) Convert  $11010101_2$  binary number to a decimal number, state the intermediate steps.
- (iii) What is the binary equivalent to the decimal 127? state the intermediate steps.
- (iv) Match devices in Column A with correct Ports in Column B by stating in front of the respective letter

	<b>A</b>	<b>B</b>
A	Hard disk	Input Device
B	USB Port	Magnetic Technology
C	Optical Mark Recognition – (OMR)	Processing set of numbers to a order
D	Random Access Memory – (RAM)	Key Board
E	Arithmetic & Logic Unit – (ALU)	Main Memory

- (v) Following informaton is related to a logic circuit of a starter motor which is used to switch on a motor car. Input sensors and the buttons work as stated below..
  - Sensor output is 1 when the engine is running
  - Signal is equal to 1 when the remote key is available
  - Driver should press the manual button and then output is 1 .

In order to proceed this system,(output is 1) Engine should be switched off(output is 0), Remote key signal should be value 1 and driver should press the button.  
 Assume Engine sensor is S1, Remote key is S2 and Start button is B. Draw respective logic circuit for the above scenario.

- 2) (a) Write most suited example for the software types listed below G to K, from the bracketed list.
- |  |        |
|--|--------|
| G. Off the shelf Software              | -..... |
| H. Free, Operating System Software     | -..... |
| I. Licensed, Operating System Software | -..... |
| J. Utility Software                    | -..... |
| K. Customized Software                 | -..... |
- [ Linux, Antivirus, Bank Transaction system, Windows 7 , Spread sheet]
- (b) State whether the following statements related to computer system is true or false.(State true or false in front of the question number)
- Processor speed and RAM capacity too effect the speed of the computer.
  - CRT monitor consumes low electricity compaired to LCD monitor.
  - Laser printer produces the most quality printouts.
  - The number of data writing times is limited in DVD when compaired to the USB flash drive.

- 3) (a) Following figure shows a text document formatted using a word processing software. Elements formatted are labelled A to E.

**Themes and styles**

Video provides a POWERFUL way to help you prove your point. When you click To make your document look professionally produced, Word provides header, cover page, header, and sidebar. Click Insert and then choose the elements you different galleries page, and text box designs that complement each other. For example,

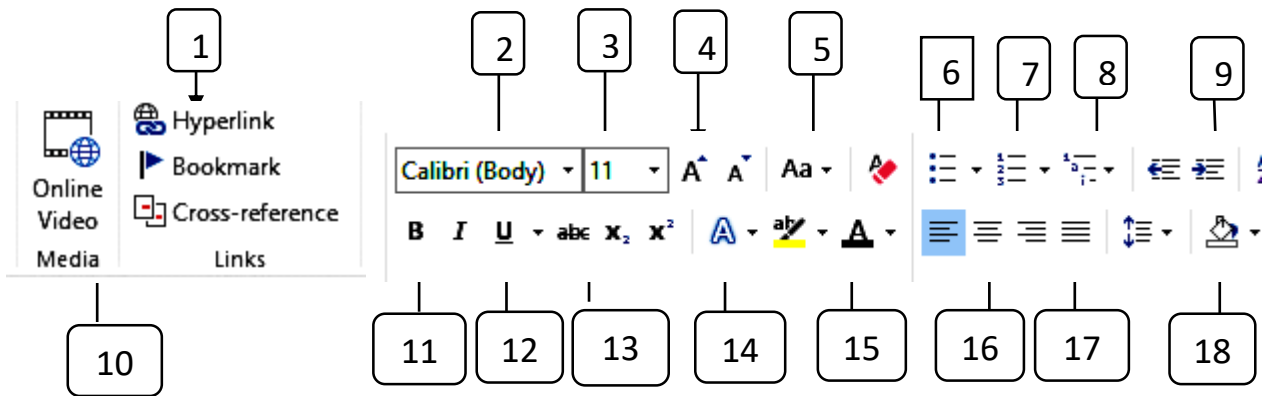
- Word with new buttons that show up where you need them. To change the
- Your document, click it and a button for layout options appears next to it
- Table, click where you want to add a row or a column, and then click the plus sign.
- Reading is easier, too, in the new Reading view. You can collapse parts of the
- Focus on the text you want. If you need to stop reading before you

Themes and styles alshelp keep your document coordinated. When you click choose a new Theme, the pictures, charts, and SmartArt graphics theme. When you apply styles, your headings change to match the new theme.

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

Write down how you could complete following tasks using the necessary tools from those labled in following figure. Write the relavant tool number(s) in front of the question number.

- Center, bold, change font size to 30 of the document title shown by label A
- Format text shown by label B to Capital letters
- Justify the paragraph shown by label C
- Make the word shown by label D as a hyperlink
- Insert a bulleted list shown by label E



(b) Consider the following sentences with blank spaces related to presentation software. Identify suitable terms to fill blank spaces from the list of terms given below.

- i. .... is a effect that occurs in a slide show view when move from one slide to the next
- ii. Keyboard ..... can be used to start a slide show
- iii. Using Ctrl+N key shortcut ..... can be started.
- iv. .... can be used to insert new slide in between two slides

[Slide show / F4 Key / Animation / New Presentation/ F5 Key/ Slide Layout /Enter Key/ Slide Transition ]

4) (a) Following spreadsheet segment shows monthly payroll of a private company for the month of August.

	A	B	C	D	E	F	G
1							
2	Number	Emp.No	Emp.Name	Attendance	Daily Rate	Monthly Salary	Bonus
3							10%
4	1	E0001	Sunil	24	1500.00		
5	2	E0002	Kamal	25	1200.00		
6	3	E0003	Anil	23	1300.00		
7	4	E0004	Nimal	26	1150.00		
8	5	E0005	Namal	25	1250.00		
9	6	E0006	Sumith	24	1400.00		
10	7	E0007	Nihal	23	1350.00		
11	8	E0008	Indunil	25	1150.00		
12	9	E0009	Ajith	25	1450.00		
13	10	E0010	Prasanna	26	1500.00		
14	11	E0011	Saman	24	1200.00		
15	12	E0012	Amara	26	1150.00		
16	13	E0013	Kamala	25	1050.00		
17							

Bonus is calculated in above worksheet as follows:

$$\begin{aligned} \text{Monthly Salary} &= \text{Attendance} \times \text{Daily Rate} \\ \text{Bonus} &= \text{Monthly Salary} \times \text{Bonus Rate} \end{aligned}$$

Considering the above,

- i. Write a formula to calculate the monthly salary of Sunil in Cell F4
  - ii. Write down the steps to copy formula in Cell F4 in Cell F5 to F16
  - iii. Write the single function to calculate the total monthly salary of employees in Cell F18
  - iv. Write a suitable formula in Cell G4 to calculate the 10% of bonus payment from Sunil's monthly payment.(only using cell addresses)
  - v. What would be the respective formula when the above answer (iv) formula is copied to the cell G16?
- (b) Following tables show teachers and the subjects taught by them in school which runs an electronic database for the school management purpose. (There may be situations where one teacher teaches more than one subject and one subject can have many teachers.)

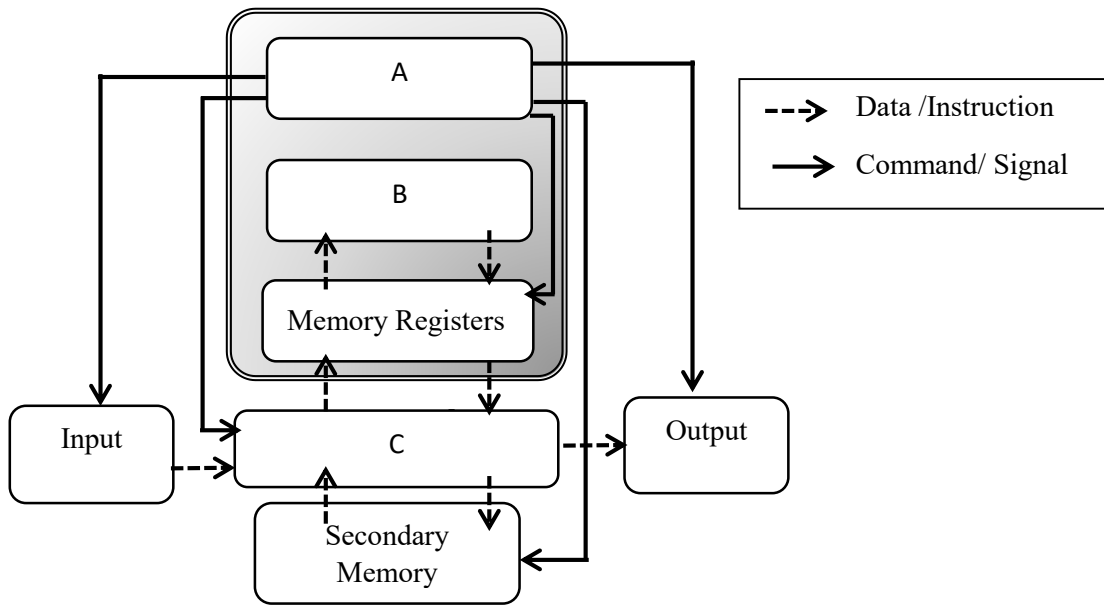
Teacher		
Teacher_ID	Name	Appointment_Date
TS001	Nimal kumara	1993/01/23
TS002	Ganga sriyani	2000/01/20
TS003	Nalaka silva	1999/08/11

Subject	
Sub_Code	Subject
Sin-11	Sinhala
Geo-10	Geography
Sci-11	Science
Eng-10	English

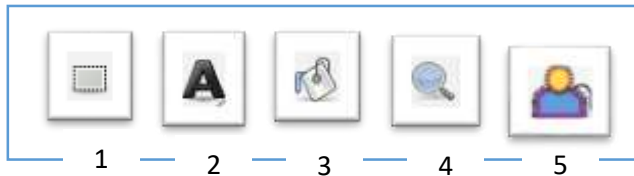
Teacher-Subject	
Sub_Code	Teacher_ID
Sin-11	TS002
Sci-11	TS001
Geo-10	TS003
Eng-10	TS001

- i. Write down suitable data types for the fields in Teacher table along with field names
  - ii. Write down appropriate field for the primary key of Teacher table
  - iii. Explain "Foreign Key " using above tables
  - iv. Assume teacher named Kumari Rathnayaka who assumed appointment in 2005/06/25 came to work as a grade 11 sinhala subject teacher. What is/are the table/tables that should be updated
  - v. Write the updated record/records along with table names.
5. (a) Following diagram shows the computer system
- i. Identify the parts labelled as A, B, C.
  - ii. Write down the purpose of above labelled parts





- (b) At present various technologies have introduced to make the banking operations easy .
- i. State two new banking technologies that make banking easy.
  - ii. State the benefits customer get from above mentioned technologies



6. (a) State whether following statements are true or false.
- (i). RGB and CMYK are two types of colour substitutes
  - (ii). When compressing a picture the quality of the picture will always be deteriorated
  - (iii). Digital graphics which in high resolution and high pixel size have high quality
  - (iv). Segment of an audio clip can not be removed by using sound editing software.
  - (v). MP4, AVI, WMV are examples for video file formats.
- (b) Following figure shows some of common tools used in graphic editing software. Write the correct tool used for the following situations.
- A. Use to select a square area of a picture
  - B. Use to zoom the picture
  - C. Use to colour a selected area of a picture
  - D. Use to insert and edit texts
  - E. Use to select the background of the picture
- (c) Fill in the blanks using the terms in the bracketed list  
( Pixel , Timeline stage, layers, Audio Editing Software, Video)
- i. avi is ..... file format
  - ii. For the easy editing of a graphic ..... are used.
  - iii. .... is used for audio file editing
  - iv. When doing the Video editing Video scene frames and audio tracks are arranged on the .....
  - v. .... is used to physically measure the capacity of a digital image

General Information Technology

2018 – 2<sup>nd</sup> Term Test

Paper II - Answers

1) .

(i)  $F = ((P.Q^1) + R)^1$  (3 marks)

(ii)  $11010101_2$

1	1	0	1	0	1	0	1
$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$
1X128	1X64	0X32	1X16	0X8	1X4	0X2	1X1
128	64	0	16	0	4	0	1
128+64+0++16+0+4+0+1=213							

01 mark for the correct answer

grant 02 marks if conversion is correct. (3 marks)

(iii)

2		127	
2		63	-1
2		31	-1
2		15	-1
2		7	-1
2		3	-1
2		1	-1
		0	-1
127=1111111 <sub>2</sub>			

01 mark for the correct answer

grant 02 marks if conversion is correct. (3 marks)

(iv) A – Magnetic Technology

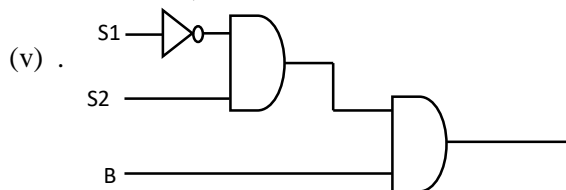
B - Keyboard

C – Input Devices

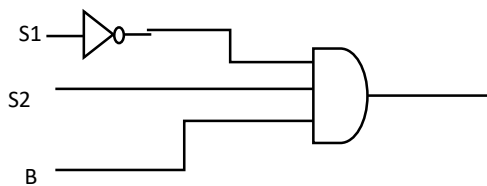
D – Main memory

E - Arranging set of numbers to an order

(If one or two answers correct 1 mark / if three or four answers correct 2 marks / 3 marks for all correct)



or



(3 marks)

[all marks -15]

2) (a)

G. Spread sheet

H. Linux

I. Windows 7

J. Antivirus

K. Bank Transaction processing system

(marks - 2 x 5 = 10)

(b).

- (i). True
- (ii). False
- (iii). True
- (iv). True

marks  $1 \times 4 = 4$ , If all answers correct marks = 5

All marks 15

3) (a) A-(1) -11

(2) - 16

(3) - 3

B- (4) - 5

C - (5) - 17

D - (6) - 1

E -(7) - 6

(1x7 =7)

(b) 1 - Slide Transition

2 - F5 Key

3 - New Presentation

4 - Enter Key

(2x4 =8 marks)

[total marks- 15]

4).a

(i) =D4\* E4

(ii) Select Cell F4 which contains the formula. Then click on the fill handle and drag it through F5-F16 cells or COPY AND PASTE method

(iii) = Sum (F4 : F16)

(iv) =F4\*G\$3

(v) =F4\*G\$3 / F4\*\$G\$3

(1.5x5 =7.5 marks)

b.

Teacher\_ID -Text / Name- Text / Gender - Date and time

(i) Teacher\_ID

(ii) Teacher\_ID field in Teacher table, in order to make connection between two tables

Teacher\_ID field is included in the Teacher\_subject. Teacher\_ID field in the

Teacher\_subject table is called a foreign key or

(Subject\_code field in subject table , in order to make connection between two tables

Subject\_code field is also included in the Teacher\_subject table. Hence Subject\_code field

in the Teacher\_subject table is called foreign key)

(iii) Teacher table, Teacher\_subject table

(iv) Teacher table

TS004	Kumari Rathnayaka	2005/06/25
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Teacher\_subject table

(1.5x5 =7.5 marks)

Sin_11	TS004
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[total marks -15]

5) (a)(i) A- CU /Control Unit

B- ALU/Arithmetic and Logical Unit

C- RAM/ Main memory

(1 x3 =3 marks)

(ii) A-controls the functioning of the all devices connected to the computer

B- Doing all the arithmetic and logical operations

C- keeping the data and instruction taken from the input and storage devices until sending to the processor and store processed data until sending to the output or storage devices.

(2x3 =6 marks)

(b) 1. e-Banking

- \* ATM
- \* Automated billing
- \* *Telebanking*
- \* Credit Information Bureau of Sri Lanka (CRIB)  
any two of justifiable answers (1.5x2 =3 marks)  
2.
- \* Efficient banking transactions.
- \* Transactions can be done from anywhere. (using mobile phones)
- \* service is available all around the clock ( 24 hours)
- \* secured banking transactions ..... any two of justifiable answers  
(1.5x2 = 3 marks) [total marks - 15]

6) (a)

- (i) True
- (ii) False
- (iii) True
- (iv) False
- (v) True (1x5 =5 marks)

(b)

- A-1
- B - 4
- C - 3
- D - 2
- E – 5 (1x5 =5 marks)

(c)

- 1- Video
- 2- Layers
- 3-Audio Editing Software
- 4- Time line stage
- 5- pixel ( 1x5 =5 marks) [total marks -15]