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Provincial Department of Education - NWP

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පළමු වාර පරීක්ෂණය - 11 ශ්‍රේණිය - 2020

First Term Test - Grade 11 - 2020

Name/Index No:- ....

Information and Communication Technology - I

Time:- 01 hour

- Answer all questions.

- In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which you consider as correct or most appropriate.

- Marks a cross (X) on the number corresponding to your choice in the answer sheet provided.

01. Which of the following is an incorrect statement regading computers used in the first generation?
    1) Using machine language
    2) Using punch card for data storage.
    3) Using concept of stored programming.
    4) Using operating system.

02. Consider the following scenarios for the need for an annual progress review meeting of Nandani Business.
    a. Obtaining profits earned during each month of the business
    b. Presentation of Annual Profit Analysis Report.
    c. Analyzing the profit the business makes each month.
    Select the answer that contains Data, Process and Information correctly.
    1) a. Data   b. Process   c. Information
    2) a. Information   b. Data   c. Process
    3) a. Data   b. Information   c. Process
    4) a. Data   b. Process   c. Storage

03. One of the disadvantages of using robotics for industry is,
    1) Loss of handling skills
    2) Not feeling tired.
    3) Should be able to work 24*7 hours.
    4) Can be used for risky work.

04. Sanjaya sudesh went to buy a computer and he got following details.

Intel core i5 2.3GHz	15.6' LED Display
4GB DDR4	1 TB SATA
Nvidia Geforce GTX 750Ti 2GB	

    According to the above information, what is the type and speed of the CPU?
    (1) TB SATA
    (2) DDR4 4GB
    (3) core i5 2.3GHz
    (4) LED 15.6'

05. Consider the following statements regarding the evolution of computers.
    a. Joseph Jacquard invented the mechanical weaving machine.
    b. The root of the computer's origin is the concept of logarithms.
    c. Ada Augusta Lovelance is the first computer programmer.
    d. Blaise Pascal adding Machine is the world first machine that performs mechanical arithmetic.
    Which of the above are correct?
    1) a only.
    2) b only.
    3) a , c, and d only.
    4) All a,b,c and d.

06. Consider the following statements.
    a. When sharing information on a computer network, the network switch sends that information to all the computers connected to it at the same time.
    b. A router is used to connect two or more computer networks.
    c. A client is a person who requests data or information from the internet or local network.
    Which of the above are correct,
    1) a only.
    2) a and c only.
    3) b and c only.
    4) All a, b, and c.

07. Consider the following statements relating to the computer networks .
    a. A network is always set up as a wide area network.
    b. Hardware and software can be controlled centrally.
    c. Connecting devices are always connected by wire.
    According to the above statements,
    1) a only.
    2) b ony.
    3) a and c only.
    4) All a, b and c.

08. Correctly match the function performed by the physical components of a computer system shown in 'A' to the 'B' column.

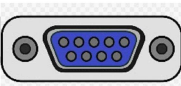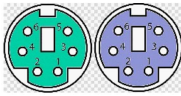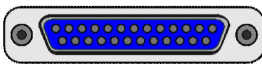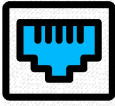|	A		B
1	Joystick	A	Only outputs information for displaying on the screen.
2	Magnetic Ink Character reader (MICR)	B	A computer pointing device.
3	Web camera	C	Used to check the accuracy of checks.
4	Monitor	D	Used in video conferencing.

Correct answer is in order,
1) 1 – B, 2 – C, 3 – D, 4 – A
2) 1 – B, 2 – C, 3 – A, 4 – D
3) 1 – C, 2 – A, 3 – D, 4 – B
4) 1 – A, 2 – B, 3 – C, 4 -D

09. Two examples of magnetic media devices belonging to the secondary memory.
    1) Hard Disk, Floppy Disk
    2) CD, DVD
    3) Blue-ray, Magnetic tape
    4) Pen drive, Random access memory

(10) Which of the following is an answer to the correct order of each port?

	Ports	Name
1		A- RJ 45 Port
2		B- Serial Port
3		C- PS/2 Port
4		D- Parallel Port

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

11. Which of the following is equivalent to 2TB ?
   1) 2×2^{40} KB
   2) 2×2^{40} byte
   3) 2×2^{40} MB
   4) 2×2^{40} GB

12. Which of the following is not equivalent to 1110101_2 .
   1) 165_8
   2) 117_{10}
   3) 75_{16}
   4) 118_{10}

13. Colour codes of the computer are represented by Hexadecimal numbers. Which of the following answer is indicated by the red, green and blue values of the colour indicated by the code #FFA32B
   1) 255, 163, 43
   2) 32, 10,13
   3) 255,10,120
   4) 30,43,255

14. The following is an octal counting frame.The decimal number corresponding to its value is,
   1) 138
   2) 148
   3) 212
   4) 254
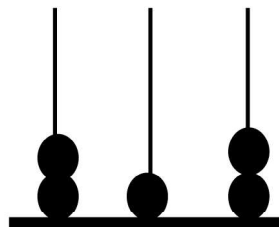
15. The student who select commerce stream for A/L must select Economics (E) and Accounting (A), also he has to select one of two subjects – Business Studies (B) or ICT(T).
   Select the Boolean expression that correctly represents the above statement.
   1) (A AND E) AND (B OR T)
   2) (A OR E) AND (B AND T)
   3) (A AND E) OR (B OR T)
   4) (A AND E) OR (B AND T)

16. What is the logic gate is created with the combination of OR gate and NOT gate?
   1) NOT gate
   2) NOR gate
   3) NAND gate
   4) ORNOT gate

17. Which of the following truth table represent the NAND gate?

1)

A	B	Output
0	0	0
0	1	0
1	0	0
1	1	1

2)

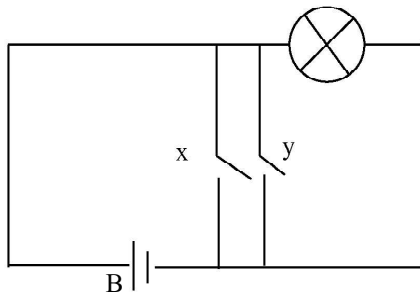| A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

3)

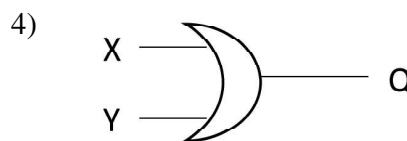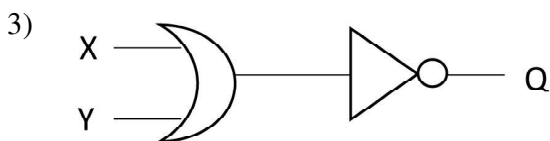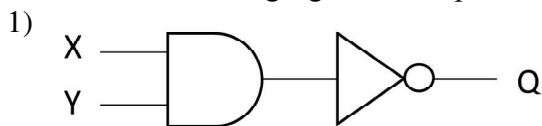| A	B	Output
0	0	1
0	1	1
1	0	1
1	1	0

4)

A	B	Output
0	0	1
0	1	0
1	0	0
1	1	0

18. The following is an outline of an electronic circuit created by a Grade 10 student of Anura college.

Q - Bulb
X and Y - Switch
B - Battery

Which of the following logic circuit represent the circuit which was created by the student,

1)

2)

3)

4)

19. A computer consists of ....A........, ...B......, hardware and user. .....C........ provides an interface to the user.
Select the suitable answer which contains the words to fill the above blanks.
1) A Hardware B Firmware C Operating system
2) A Firmware B Software C Operating system
3) A Firmware B Software C word processing software
4) A Language translater B Hardware C Operating system

20. When considering utility software and application software,
   a. The application software manages all the hardware and software on the computer.
   b. Word processing software and computer games are examples of the application software.
   c. Utility software is designed to assit in the analysis and maintenance of other software installed in the computer.
   d. Examples of utility software include antivirus software and backup software.
   Which of the following is correct from the above statements,
   1) a and b only.   2) a, b and d only.
   3) b, c and d only.   4) All a, b, c and d.

21. Operating systems are considered indispensable for computers and mobile phones.
    Select only the most accurate statement.
    1) A multi-user operating system that can be perform several tasks simultaneously.
    2) Android OS is a product of Apple company.
    3) Operating systems that provide output as soon as input is provided are Real- time operating system.
    4) Isuru Linux is a commercial operating system owned by Sri Lanka.

22. Select the answer that shows you the shortcut key sequence that you can use to cut and paste files and folders on your computer and print a document.
    1) Ctrl + X , Ctrl + A, Ctrl + P   2) Ctrl + X , Ctrl + V, Ctrl + P
    3) Ctrl + X , Ctrl + P, Ctrl + Print   4) Ctrl + Delete , Ctrl + S, Ctrl + P

23. What is the incorrect statement about Gutter, which facilitates the editing of a document?
    1) It should be placed on the right or bottom of the document.
    2) It should be placed at the top or left of the document.
    3) This allows the document to be folded into a book.
    4) It may not be used in the document.

24. Given below is a table created using word processing software.

The tool which is used to format A is,

1) 2) 3) 4)

25. To display the sum of the values in the range A1:A4, Write the correct function that must be written in cell A5.
    1) =Max (A1:A4)
    2) =Sum (A1:A5)
    3) =Sum(A1:A4)
    4) =Total (A1:A5)

	A	B	C
1	100	78	
2	125	51	
3	Ab	56	
4	202	92	
5			

26. If enter as "=Count (A1:B3)" in the cell C1 Which one is the correct answer,
    1) 4   2) 5   3) 8   4) 6

27. In the spread sheet software,The correct answer is of 10+2*3^2/2-3
    1) 16   2) 14   3) 20   4) 0

● Answer the questions based on the following database tables

Member table

M_ID	Name	Gender	Address	Contact	DOB
M001	Kanishka	Male	No, 05 Negambo	087-4080250	2/25/2000
M002	Premith	Male	Wehera, Kurunegala	087-7080251	7/21/2001
M003	Dahamsa	Female	No368, Puttalam	037-8070252	3/26/1998
M004	Navishka	Male	No20, Warakapola	097-4080253	2/25/2003

28. Which of the following is the most suitable field to be selected as the primary key?
    1) M_ID   2) Gender   3) DOB   4) Address

29. Which of the following fields is for Contact?
    1) Number   2) Text   3) Currency   4) TelePhone_No

30. A set of data belonging to a student in at database table is called as...................... in the table. What is the most appropriate term to fill in the blank of this sentence?
    1) Record   2) Field   3) Form   4) Query

31. Encryption
    1) Can be used to protect business information against unauthorized access.
    2) Can be used to increase the bandwidth of an internet connection.
    3) Can be used to protect the privacy of information in the database.
   Select the answer that includes correct statement/ statements.
    1) A only.   2) A and B only   3) A and C only   4) All A,B and C

32. At present there are many different application software that can be used to create an electronic presentations. Column A shows some of the shortcut keys which are used by Mr. Kusal when preparing a presentation. Column B shows the tasks of the shortcut keys and when the function is correctly matched to those shortcut keys,the answer is
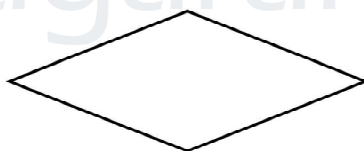
	A	B
1	F5 Key	A – A slide form in to black screen.
2	Shift + B	B – Display corrently selected slide in full screen.
3	Shift + W	C – Close the full screen.
4	ESC	D – White screen on the computer slide.

    1) 1 – A, 2 – B, 3 – D, 4 – C   2) 1 – B, 2 – A, 3 – D, 4 – C
    3) 1 – C, 2 – A, 3 – D, 4 – B   4) 1 – B, 2 – D, 3 – A, 4 – C

33. Given below are some symbols that are used to draw flow charts.
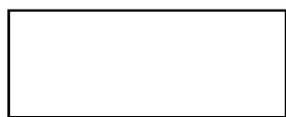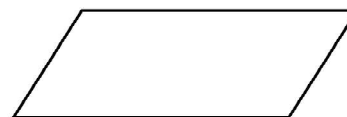
    A   B   C

    Select the correct answer for A, B and C
    1) A - Decision   ,   B - Process,   C - Input/Output
    2) A - Process   ,   B - Decision   C - Input/Output
    3) A - Input/Output   ,   B - Decision   C - Process
    4) A - Decision   ,   B - Process,   C - Input/Output

34. Here are some of the operators that can be found in any computer language. Select the incorrect answer,
    1) Algebra operators.   2) Comparison operator.
    3) Logical operators.   4) Boolean Operators.

35. The correct introduction to the following Pascal statement is,

   Var   Newmarks   :   Integer;

   (A)   (B)   (C)
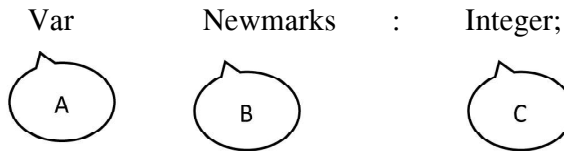
   1)   A – Reserved word.   B - Name,   C - Variable
   2)   A - Reserved word.   B - constant, C – Data type
   3)   A - Reserved word.   B - Identifier, C – Data type
   4)   A - Reserved word.   B - Identifier, C - Data type

36. Consider the following pseudo-code:

```
Begin
    x = 1
     while x <= 5 do
          print x
            x = x + 1
   End while
   End
```

   The output of the above code is,
   1)   0,1,2,3,4,5   2) 1,2,3,4   3) 1,2,3.4,5   4) 1,2,3,4,5,6

37. What is the correct output of the following pascal code.
   (1)   AmalKamal
   (2)   Amal Kamal
   (3)   Amal
          Kamal
   (4)   Amal
            Kamal

```
Program ABC;
    Begin
    Write ('Amal');
    Writeln    ('Kamal);
End.
```

38. Consider the following incompleted sentence.
   .... is a step of the System Development Life Cycle (SDLC)
    What is the most appropriate statement to fill the blank?
   1)   Prototyping.
   2)   Testing and debugging.
   3)   Collecting of testing data.
   4)   Existing system is totaly terminated and the new system is installed.

39. Select the answer that contains correct procedure of the following activities of SDLC.
   1)   Observation – Deployment of the system
   2)   System Testing – System maintenance.
   3)   Phase development – Coding of the solutions.
   4)   Prototyping – Identification of requirement.

40. With the advancement of the ICT, Online shopping can be identified as a new trend in the business sector.
   A disadvantage of online shopping is,
   1)   Goods and services can be bought with 24 x 7 hours.
   2)   Reduce the waste of time to go and see goods.
   3)   Unable to touch the goods.
   4)   Home delivery of goods and services.

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First Term Test - Grade 11 - 2020

Name/Index No:- ....

Information and Communication Technology - II

Time:- 02 hours

Instructions :

- **Answer only 5 questions including first question and 4 of others.**
- **First question carries 20 marks and each of other selected question carries 10 marks.**

(01) (1) (a) What is the characteristic number system that uses symbols 0-7?

(b) Convert the Decimal number 158 into its octal equivalent. Write your calculation steps.

(2) In the integrated circuit below,
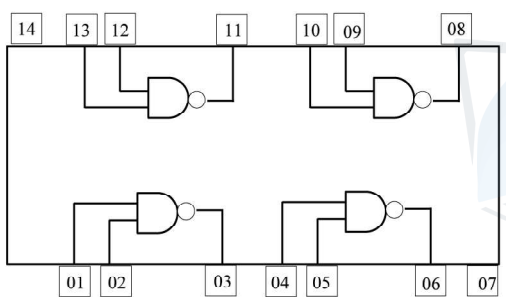
(a) Consider the pins 1, 2 and 3 in the above circuit. If 1=0 and 2=1 what is the value of pin 3?

(b) Consider the pin 11,12 and13 in the above circuit. If 11=0 and 12=1, what is the value of pin 13?

(3) Write two advantages of using cloud computing in word processing.

(4) Fill in the blanks of the table below based on computer classification by generation.

Computer generation	Technology used
01. First generation.	(A) ....
02. Second generation.	(B) ....
03. Third generation.	(C) ....
04. Fourth generation.	(D) ....

(5) Read the statements below and if it is correct put (✔) and if it is incorrect put (✗).(Mark the correct mark on the answer sheet in front of the letter.)

    a.   A system is a collection of componants that interact to achieve a specific task.

    b.   An information system is a system that converts information into data.

    c.   A system that uses manual methods and giving outputs is called as a manual system.

    d.   Any system consists of three basic components: Input, process and output.

(6) Each of the items in column A of the following table can be matched with the items in column B. In your answer sheet, specify those matching pairs with appropriate labels.

A		B	
A	Domain name.	1	yahoo
B	Search engine.	2	www.e-thaksalawa.moe.gov.lk
C	This is a stage of the web development process.	3	Google chrome
D	Web browser.	4	Maintaining.

(7) Shown here is a computer network physically.
   (a) Name the network topology related to this diagram.
   (b) Name two devices used for C here.
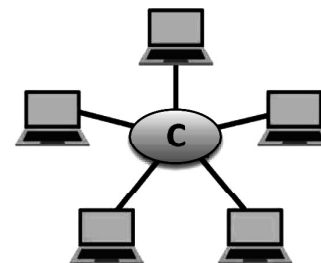
(8) Solve the functions given below.
   (a) 6 + 15 MOD 4
   (b) NOT (8 MOD 2 > 6)

(9) (a) In what generation of computer which included the graphical user interfaces?
   (b) Name the four main components of a graphical user interface (GUI).

(10) Given below is a Pascal program created by a grade 11 student Sithara.

   Identify the errors and re write the code.

```
Program positive No (input, output);
Var N: integer;
Begin
      Writeln ('Enter Number')
      Read (N)
      If N>0
      Writln ('Positive Number')
End
```

(10 x 2 = 20 **marks**)

(02) (1) Consider the following logic circuit and answer the following questions.
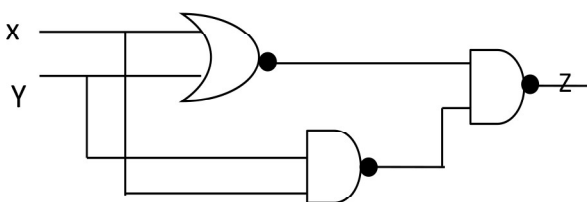
   (a) What are the Logic Gates that is used for this logic circuit?   (01 mark)
   (b) Write down the relevant Boolean expression for Z   (01 mark)
   (c) Form the truth table for Z   (02 marks)
   (d) If X=1 and Y=0, find the value of Z   (01 mark)

(2) (a) Name two of the coding systems that are used to represent data in a computer.   (01 mark)
   (b) Convert $5E_{16}$ to its octal equivalent   (02 marks)
   (c) What is the Most Significant Digit (MSD) and Least significant digit (LSD) for the number 4000.500
          (02 marks)

(03) Answer the following questions about word processing software.

(1) If the following word processing software related terms are correct put (✓) mark or incorrect put (✗) mark with the letter relevant to each sentence.

    A - In a word processing software, when we typed the first letter automatically, it becomes capital. Reason for it is Spelling and grammar component.

    B - Replce command replaces the existing word with another word.

    C - You cannot format words that are included in a table.

    D - To format page orientation use this tool.   (02 marks)

(2) Select the tools in parentheses to match A to F spaces listed below.

    (left align, center align, right align, shapes, pictures, Word art, hyperlink, center indentation, right indentation, Bold, Italic, Underline.)
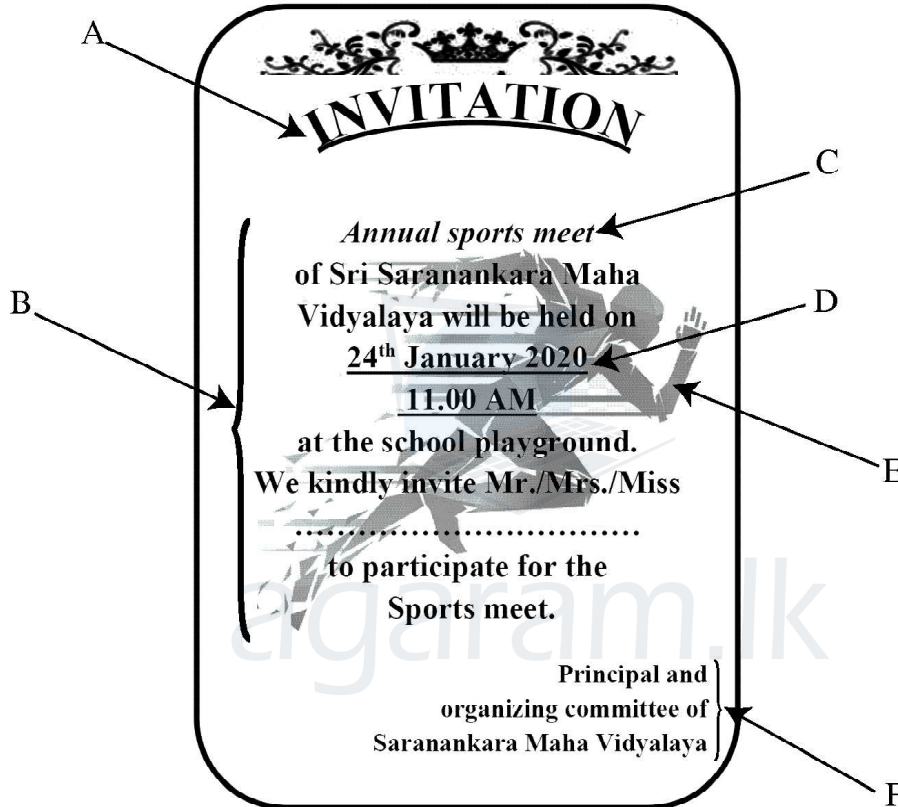
                  (06 marks)

(3) Consider the following presentation software and select the appropriate key word to fill in the blank.

    A - Madhushan .... the view shows the entire screen as electronic presentation. (normal / slide master / slide show/ slide shorter)

    B - File extension used as a .... when saving an electronic presentation.
       (ppx / .ppd / .ppt / .ppr)

    C - When obtaining new slide .... is used as the shortcut.
       (Ctrl+M / Ctrl+C / Ctrl+V / Ctrl+N)

    D - An image in slide to move the image of the slide from left to right.
       To pulfill above task we use .... tool.
       (Slide transition / Slide design / Animation / Slide layout) (2 marks).

                  (02 marks)

(04) The given spreadsheet segment shows the marks analysis of three subjects of sudents in Nilwala Maha vidyalaya. Answer the following questions.

Note - When calculating the Tota marks and average marks in each term, The relavent practical marks also are added.

	A	B	C	D	E	F	G	H	I	J	K	L
1					Marksheet - 2020							
2			First term					Second term				
3	Student Name	Mathematics	Science	English	Total Marks	Average marks of the first term	Mathematics	Science	English	Total Marks	Average marks of the second term	Highest average mark
4	Amal	45	63	85	278	69.50	56	85	78	300	75.00	85.25
5	Rinosa	56	56	36	233	58.25	69	95	96	341	85.25	85.25
6	Nimesh	32	63	69	249	62.25	98	45	35	259	64.75	73.25
7	Pramith	32	78	98	293	73.25	63	42	98	284	71.00	73.25
8	Dahami	23	45	78	231	57.75	56	85	65	287	71.75	71.75
9												
10												
11			Marks for the practical test									
12	First term	85										
13	Second term	81										
14												

1. What formula should be included in the E5 cell to calculate the total score obtained by Amal in the first term? (This formula can be used to calculate marks of the other students).   (02 marks)

2. What formula should be included in the cell F5 for the calculation of the average mark obtained by Amal? (This formula can be used to calculate marks of the other students).   (02 marks)

3. The student with the highest average is selected after calculating the average of both the first and second terms of students. Write down the formula that should be written in the cell L5 to find the student who got the highest average. ? (This formula can be used to calculate marks of the other students).   (02 marks)

4. The spreadsheet uses graphs to show the students talents.   (01 mark)

    a.   In the above spreadsheet, write the most suitable chart type for showing   the average of both terms of the students.

    b.   If they do not use a pie chart, what is the reason for it?   (01 mark)

5. What are the benefits of using spread sheet software?   (02 marks)

(05) Asliya Bake House is a well-known business that supplies buns to school canteens. The buns are supplied in several schools in their outlets, and they keep a database to get information on the sales of the cafeteria daily.

Item table

Item_no	Item	Price
B001	Fish Bun	30
B002	Egg Bun	25
B003	Vegitable Bun	20

School table

Sch_Id	Sch_Name
S001	Kubukgeta M.V
S002	Nilwala N.S
S003	Abhaya M.V

Sales table

Date	Item_No	Sch_id	Sales
2020-01-10	B001	S002	95
2020-01-10	B002	S001	190
2020-01-11	B002	S002	120
2020-01-11	B001	S003	220
2020-01-12	B003	S001	140

(1) Define the primary key and list two primary key fields as the examples and their respective table names in the above database. (2 marks)

(2) Write down a foreign key with the corresponding table name. (2 marks)

(3) Telephone numbers in school canteen have to be entered into the database. What table / tables is appropriate to include in it and write down the appropriate data type. (2 marks)

(4) Asliya Bake House has sold 200 eggs Buns to Gemunu school from 25/01/2020.

    (a) Which of the above table / tables should be updated here? (1 mark)

    (b) For updates, write the updated rows of the relevant table / tables with their corresponding table names. (1 mark)

(5) When creating and maintaining a database, minimizing data redundancy is an important factor.
Write down how data redundancy can be minimized (2 marks)

(06) (1) Wilpotha Anura college is very bloomed school and it has a library with valuable books.

    (a) Explain the INPUTS, PROCESSES and OUTPUTS of the system in Anura college with examples using the table given below. (Copy the following table to your answer sheet). (3 marks)

Input	Process	Output

    (b) Write two advantages of using computer based information system to the librarian in the Library of Anura college. (2 marks)

(2) There is a decision to make a new information system to the library of Anura college. System Development Life Cycle (SDLC) is used to develop the above system and some of the steps in column A and their tasks in column B in SDLC are given below.

Match the two columns correctly. (You need to write the number of the step and relevant letter of the task only.) (3 marks)

Column A	Column B
1. Requirements analysis.	A. Designing of the system using a language.
2. System designing.	B. Identifying main hardware and software systems.
3. Coding of the system.	C. Collecting information using observations and interviews.
4. System testing and debugging.	D. A barcode reader is connected to facilitate the procedure of receiving and issuing books.
5. Deployment of the system.	E. Observation of book issuing department and reference department.
6. Maintenance of the system.	F. Deployment of a new software and stop the existing manual system.

(2) Various tasks of teachers and students can be done effectively by using Information and communication technology in the education sector.
Write two services to each of the teachers and students. (2 marks)

(07) (1) (a) Write two control structures used to develop an algorithm. (1 mark)

(b) Write two components used to analyze a problem (1 mark)

(c) Following flow chart explains the scenario given below

A number is taken as the input and if the number is an odd number it gives the output 'Odd' and if the number is an even number it gives the output 'Even'.

Write the relevant pseudo code for the flowchart. (4 marks)
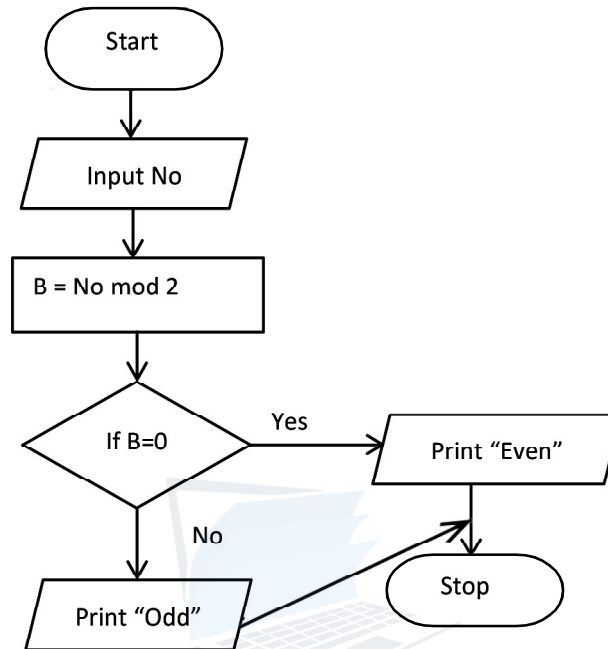
(2) (a) Write two of the reserved words used in Pascal programming language. (1 mark)

(b) Write two data types used in Pascal programming language. (1 mark)

(c) Write the output of the following Pascal program (2 marks)

```
Begin
    X= 1
    Repeat
    Display X
     X=X+1
    Until X>10
End.
```