 DEPARTMENT OF EDUCATION-SOUTHERN PROVINCE


Grade 11
Information and Communication Technology I, II
Time: 3 hours

Name / Index No: $\qquad$
ivule.

* Answer all questions.
* In each of questions $\mathbf{1}$ to 40, pick one of the alternatives (1),(2),(3),(4) which is correct or most appropriate.
* Mark a cross (X) on number corresponding to your choice in the answer sheet provided.


## Information and Communication TechnologyI

1. Following information about a certain patient, who is suspected to be infected Covid 19 virus, was obtained by a doctor.

- Patient is in a white colour shirt.
- His/ her body temperature is $38^{\circ} \mathrm{C}$.
- Self anti-body test report obtained one week ago

Which of the following answer contains the features of above information respectively?

1) Timeliness, Relevancy, Accuracy
2)Timeliness, Accuracy, Relevancy
3)Accuracy, Timeliness, Relevancy
4)Relevancy, Accuracy, Timeliness
2. Following details were obtained from a Google form created to gather information of teachers of Information and Communication Technology subject in Southern province.


Which of the following answer contains the data, process, information and decision from the above $\mathrm{A}, \mathrm{B}, \mathrm{C}$ and D labels, respectively?

1) $C, A, B, D$
2) D,A,B,C
3) $B, A, C, D$
4) $C, B, A, D$
3. Which of the following answer contains an incorrect statement?
1)Super computers are used in scientific and engineering related activities and also to solve very complex mathematical problems.
2)Speed, accuracy and versatility are the special features of a computer.
3)Data input through an input device first goes to the primary memory.
4)ECG machines used in hospitals can be taken as an example for analog computers.
4. Which of the following answer contains only pointing devices of a computer which are used to feed data into a computer?
1)Mouse, Flatbed scanner, Light pen
2) Mouse, Joystick, Touch sensitive screen
3)Touch sensitive screen, Web
3) Mouse, Joystick, Barcode reader camera,Light pen
5. Brail printers receive data from computer devices and that information is embossed on heavy-weight paper without using ink for printing. Those letters are recognized by touching visually by blind people. This technology used in it is,
1)Laser printing method
2)Inkjet printing method
3) Dot matrix printing method
4) Plotting method

6. Information and Communication Technology Unit of Southern Provincial Department of Education,implements an automated online assessment program twice a week targeting students studying Information and Communication Technology in grade 10 and 11 via the blog http://spedict.blogspot.com.This e-government service is,
1) G2G
2) G2C
3) G2B
4) G2E
7. Consider the below data measuring units of computer system. The correct statement out of followings is,

1)Byte is the smallest unit while Mega Byte is the largest unit.
2)Bit is the smallest unit while Giga Byte is the largest unit.
3)Bit is the smallest unit while Tera Byte is the largest unit.
4)Giga Byte is the largest unit while Byte is the smallest.
8. Which of the following are the largest value and the smallest value out of $10111_{2}, 125_{8}, 4 \mathrm{C}_{16}$, $150_{10}$ four number are respectively,
1) $10111_{2}, 125_{8}$
2) $4 \mathrm{C}_{16}, 150_{10}$
3) $150_{10}, 125_{8}$
4) $150_{10}, 10111_{2}$
5) Which of the following $/ \mathrm{s}$ is/ are example/s for utility software of a computer system?
A - Compiler
B -Backup software
C - Anti-virus software
D - Linux
6) Only A
7) B and C only
8) A, B and D only
9) All A, B, C and D
10) Which of the following answerc contains software that is not an operating system?
11) Ubuntu, MS Word, Mac OS
12) Fedora, Chrome OS, Debian
13) Solaris, Isuru Linux, Pascal
14) Windows, Mac OS, Android
15) Which of the following truth table is equivalent to the logical circuit given here?


1

| $A$ | $B$ | $Z$ |
| :--- | :--- | :--- |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

2

| $A$ | $B$ | $Z$ |
| :--- | :--- | :--- |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

3

| $A$ | $B$ | $Z$ |
| :--- | :--- | :--- |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

4

| $A$ | $B$ | $Z$ |
| :--- | :--- | :--- |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

12. Out of following logic gates, which logic gate's output value becomes false, when only all input values are false?
1) AND
2) NOR
3) NOT
4) NAND
13. Following figure shows the potential level of input A, B and output C in a logic circuit. Boolean relationship between $\mathrm{A}, \mathrm{B}$ and C is,
1) $C=A+B$
2) $C=A \cdot B$
3) $C=\overline{A . B}$
4) $C=\overline{A+B}$

14. Which of the following tool is used to make a simple letter to a capital letter in a word processing software?

15. Tharaka applies shortcut keys <Ctrl>+<Shift>+<+>after selecting two letters OL from the word SCHOOL using word processing software. What would be the result?
1) $\mathrm{SCHO}^{\mathrm{OL}}$
2) SCHOOL
3) $\mathrm{SCHO}_{\mathrm{OL}}$
4) SCHOOL
5) Which of the following answer is correct if the formula $=5-2 * 3 \wedge 2 / 3$ is copied into a cell of an electronic spreadsheet?
6) 1
7) -1
8) 6
9) -7
10) This is a segment of a spreadsheet created to pay money for the fruit suppliers for supplying fruitsto a certain fruit collecting center.

| A | B | C | D | E | F |  |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| 1 | Weight of the plastic basket | 5 |  |  |  |  |
| 2 | Weight of fruits with plastic basket | 32 | 43 | 51 | 22 | 31 |
| 3 | Net weight of fruit | 27 | 38 | 46 | 17 | 26 |

The absolute weight of a fruit basket without fruits has been entered to cell B1. At the fruit collecting center, the weight of the basket with fruits is taken and entered to the cell B2. In order to obtain the net value of the fruits into cell D3, the formula to be written in cell B3 is,

1) $=\mathrm{B} \$ 2-\mathrm{B} \$ 1$
2) $=\mathrm{B} 2-\mathrm{B} \$ 1$
3) $=\mathrm{B} 2-\$ \mathrm{~B} 1$
4) $=\$ B \$ 2-B \$ 1$
5) Which type of following chart is not appropriate for a graphical comparison representation of net weight of fruits of each of the suppliers mentioned in above $17^{\text {th }}$ question?
6) Bar
7) Pie
8) Line
9) (X, Y) scatter
10) The combination which contains only presentation software is?
A.Prezi,Google Slides,Microsoft PowerPoint
B. Prezi,Google Slides,Microsoft PowerPoint, Libre Office Impress
C. Moodle,Google Doc,Gimp photo, Microsoft PowerPoint
11) Only A
12) Only A and B
13) B and C only
14) All A, B and C
15) Correct statement/s regarding use of presentation software is/are.

A -Although it is able to insert an audio clip to a presentation software, it is unable to do live audio recording.
B -It is able to insert video clip to a presentation and some editions facilitate for screen capturing. C -Order of animations cannot be changed later.

1) Only A
2) Only B
3) Only B and C
4) All A, B and C
5) Which of the following are suitable data types to enter an email address and a telephone number in a data management system respectively?
6) Text, Integer
7) Text, Text
8) Integer, Text
9) Real, Integer

- Use the following tables to answer question 22-25.

Following is a segment of a database of a school which includes data about students of the subject stream, 13 years guaranteed education, teachers who have appointed to observe them and the subjects available.

Student_Information_Table

| Admission_Number | Student_Name | Telephone_Number | Subject_Number |
| :---: | :--- | :--- | :--- |
| 4001 | Kasun Mayantha | 0771236584 | S003 |
| 4002 | Thanuja Nishani | 0714655589 | S002 |
| 4003 | Suresh Madhushan | 0775698451 | S005 |
| 4004 | Kamal Damayantha | 0774655231 | S001 |

Teacher_Information_Table

| Number | Name | Telephone_Number |
| :---: | :--- | :--- |
| 1001 | Deepthi Perera | 0774653215 |
| 1002 | Asanka Priyashan | 0704653245 |
| 1003 | Anjello Fernando | 0772531231 |

Subject_Table

| Subject_Number | Name | Telephone_Number |
| :---: | :--- | :---: |
| S001 | Computer Hardware and Networking | 1001 |
| S002 | Graphic Designing | 1002 |
| S003 | Aluminum Fabricating Technical Studies | 1001 |
| S004 | Tourism and Hospitability | 1003 |
| S005 | Motor Mechanism Technical Studies | 1002 |

22) Choose the answer which contains only primary keys.
23) Subject - Subject_Table, Teacher_Number -Subject_Table, Student_Name Student_Information_Table
24) Number - Teacher_Information_Table, Subject_Number - Subject_Table, Teacher_Number - Subject_Table
25) Number - Teacher_Information_Table, Subject_Number - Subject_Table, Admission_Number- Teacher_Information_Table
4)Subject_Number - Student_Information_Table, Student_Name -

Student_Information_Table, Subject-Subject_Table
23) The answer which contains foreign key and table is,

1) Teacher_Number - Subject_Table, Subject_Number - Student_Information_Table
2) Teacher_Number - Subject_Table, Subject_Number - Subject_Table
3)Teacher_Number - Teacher_Information_Table, Telephone_Number -

Student_Information_Table
4) Subject_Number - Subject_Table, Subject_Number - Student_Information_Table
24) What are the subjects observed by the teacher 'Mr. AsangaPriyashan'?

1) Computer hardware and networking, Aluminum Fabricating Technical Studies
2) Tourism and hospitability, Computer hardware and networking
3)Motor Mechanism Technical Studies, Aluminum Fabricating Technical Studies
3) Graphic Designing, Motor Mechanism Technical Studies
4) The student who studies 'Computer hardware and networking' is,
5) Kasun Mayantha
6) Thanuja Nishani
7) Suresh Madhushan
8) Kamal Damayantha
9) Basic language which is used to create documents for World Wide Web is,
10) FORTRAN
11) C
12) HTML
13) PASCAL
14) The tags which are related to basic layout of a HTML document is,
1. $<\mathrm{html}>$
<title></title>
<table></table>
2. $\langle\mathrm{html}>$
<head></head>
<body></body>
</html>
3. 


4.

$$
\begin{aligned}
& \hline \text { <html }> \\
&<\text { body }><\text { body }> \\
&<\text { center }></ \text { center }> \\
&<\text { html }>
\end{aligned}
$$

28) Which of the following tags can be used for formatting a text?
29) <u>, <br>, <li>, <tr>
30) <hr>, <p>, <i>, <ol>
31) $\langle$ br>, <dl>, <em>, <u>
32) <u>, <b>, <i>, <h1>
33) Which of the following HTML tags and parameters can be used to create the given table?
34) h1, table, tr, colspan=2, caption
35) h1, table, tr, colspan $=2$, caption,rowspan $=3$, td
36) table, tr, colspan=2,td, caption
37) table, tr,rowspan=3, td,caption
38) The correct statement regarding solution space is,
39) Writing down the steps of solving a problem
40) Only solution for a certain problem
41) All optional solutions of a problem if available
42) Instance to solve a problem

Heading

31) Which of the following coding is correct regarding REPEAT UNTIL statement is to print "Hello" iteratively in nine times?

| 1. |
| :--- |
| Number :- $1 ;$ |
| REPEAT |
| Writeln(Hello); |
| Number :- Number + 1 |
| UNTIL Number $<=10$ |

```
2. Number := 1;
    REPEAT
    Writeln(Helló);
    Number := Number + 1;
UNTIL Number \(<=10\)
```

| 3. Number $:=1$ |
| :--- |
| REPEAT UNTIL |
| Number $>=10$ |
| Writeln(Hello) |
| Number $:=$ Number +1 |

4. Number := 1 ;
REPEAT
Writeln(Helló);
Number := Number + 1;
UNTIL Number >= 10
32) Which should be the operators to be entered into the below expression to get the final answer as 43 ?
40 $\qquad$ 13 5
1)+, DIV
33) +, MOD
3)*, DIV
4)NOT, MOD
34) 

| $\mathrm{N}[0]$ | $\mathrm{N}[1]$ | $\mathrm{N}[2]$ | $\mathrm{N}[3]$ | $\mathrm{N}[4]$ |
| :--- | :--- | :--- | :--- | :--- |
| 50 | 16 | 75 | 36 |  |

Select the most appropriate answer to be included in the above array as a Pascal code, if the value relevant to $\mathrm{N}[4]$ cell in the array named N is 52 .

1) $\mathrm{N}[4]:-\mathrm{N}[1]+\mathrm{N}[3]$;
2) $\mathrm{N} 4=\mathrm{N} 1+\mathrm{N} 3$;
3) $N[4]:=N[1] * N[3]$;
4) $\mathrm{N}[4]:=\mathrm{N}[1]+\mathrm{N}[3]$;
5) What are the most suitable data types to insert "kasuni@gmail.com", "268.236", "10" in pascal programming respectively?
1)Text, Real, Integer
6) Text, Char, String
7) String, Real, Integer
8) String, Integer, Real
9) Consider the following table related to SDLC (System Development Life Cycle).

| A | B |
| :--- | :--- |
| 1. System testing | P - Improving the system until developed, by gaining the <br> knowledge of previous steps |
| 2. Acceptance testing | Q - Developing the system by completing one step and then <br> move to the next step |
| 3. Waterfall model | R - Checks whether the expected output is given by providing <br> inputs to the entire system |
| 4. Repetitive growth model | S - Testing the system by giving it to be usedby the user |

The correct answer which matches the column A with column B is,

1) $1-R, 2-S, 3-P, 4-Q$
2)1-R, $2-S, 3-Q, 4-P$
2) $1-\mathrm{S}, 2-\mathrm{R}, 3-\mathrm{P}, 4-\mathrm{Q}$
3) $1-\mathrm{S}, 2-\mathrm{R}, 3-\mathrm{Q}, 4-\mathrm{P}$
4) Which of the following statement/s is/ are accurate regarding internet?

A- Uniform Resource Locator (URL) is used to identify a web page uniquely.
B - A computer connected to a network can be identified uniquely by its IP address.
C - E-mail is a service of the internet.

1) Only A
2) Only B
3) Only B and C
4) All A, B and C
5) The answer which contains a correct e-mail address is,
1)spedu@edudept.sp.gov.lk
2)spedu@edudept.sp
3)spededudept.sp.gov@lk
4)spedu.edudept.sp.gov.lk
6) Which of the following tool can be used to remove dark spots on the face of the given picture and to apply the correct colors to it?

1

2

3

7) Consider the following statements. Which of the following statement/s are correct?

A - Tablet computer project of selected schools in Sri Lanka and making free wi-fi zones in schools has been lead to minimize the digital divide in general education.
B - Though video conferencing software is used for most online meetings, discussions and for learning purposes, sometimes our computers may be attacked by unauthorized people through these links.
C - Video conferencing is the only way for students to get online education.

1) Only A
2) Only A and B
3) Only A and C
4) All A, B and C
5) Maintaining the correct posture is an action to be followed to avoid health problems. Which of the following answer contains the correct posture/s?

A - Keeping legs vertically to the earth and keep foot relaxed on the floor
B - Keep mouse and keyboard little bit over the elbow
C - Keep the gap between computer screen and eyes as 18-20 inches (45-75cm)

1) Only A is true
2) Only A and C are true
3) Only C is true
4) All A, B and C are true

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 DEPARTMENT OF EDUCATION-SOUTHERN PROVINCE


Grade 11
Information and Communication Technology I, II
Time: 3 hours

Name / Index No: $\qquad$
Note:

* Answer the first question and four other questions.
* First question carries 20 marks and each of the other questions carries $\mathbf{1 0}$ marks.


## Information and Communication Technology II

1. 

i). Below diagram shows the logic circuit of an automated hand sanitizer spraying machine invented by a school student for keeping hands clean. Fill two blanks in it.

- A is a sensor of detecting hands in it, and $B$ is a mechanical switch,which can be activated by foot when the hand recognizing sensor A is not working. Another sensor C is allocated to identify the sanitizer level in the
 container.
- Sensor A is activated (1) as soon as a hand is pointed to it. The sensor C is activated (1) when hand sanitizer is not in the container.
- Hand sanitizer is sprayed $(\mathrm{Q}=1)$ if sanitizer is available in the container and only when a hand is closer or when the mechanical switch is activated.

Build a truth table for the above logic circuit and write the Boolean expression for that.
ii). Following figure shows some input and output devices used for computers with labels. Write English letters of any two output devices and two input devices separately under each category type of device.

iii). Following is a segment of database which contains information on teachers of Information and Communication Technology working in schools of the southern province.

| TeacherId | TecherFname | TecherLname | Gender | DOB | Expect a transfer |
| :--- | :--- | :--- | :---: | :--- | :---: |
| STICT1011 | De Silva | Kamal | M | $2000 / 03 / 12$ | 1 |
| STICT1012 | Kostha | Irruka | F | $2001 / 03 / 21$ | 0 |
| STICT1013 | Soysa | Acini | F | $1980 / 02 / 28$ | 0 |
| STICT1014 | Yapa | Sman | F | $1986 / 12 / 03$ | 1 |
| STICT1015 | Jayawrdana | VInod | M | $1982 / 03 / 02$ | 0 |

a. Write the number of fields and number of records in the table respectively.
b. Write suitable data types for the DOB and Expect a Transfer fields.
iv). Structure of a System Development Life Cycle is given below. It contains some errors according to standard structure. Write correct steps in your answer script (as Number $\rightarrow$ correct step).

v). Color code of a special color named SCHOOL BUS color is \#EBA317. Copy the below table to your answer sheet and fill the blanks in it by mentioning remaining RGB values in it.

| R | G | B |
| :--- | :--- | :--- |
| $\ldots \ldots \ldots \ldots \ldots$. | 163 | $\ldots \ldots \ldots \ldots \ldots$ |

vi). The first table shows how blocks of text sare formatted by word processing software. The second table shows some tools used for formatting, with their labels given in English capital letters. Match $1^{\text {st }}$ table with $2^{\text {nd }}$ table by writing label name in second table against the formatting number which has been used to format the text.

| Before formatting | After formatting | Formatting Numbers |
| :--- | :--- | :--- |
| Southern Province | Southern Province | 1 |
| Department of Education | Department of Education | 2 |
| 2022 | $\mathbf{2 0 2 2}$ | 3 |
| Happy New Year | Happy New Year | 4 |


| Tool | B | Calibri (Body) ${ }^{\sim}$ I |  | $\mathrm{A}^{*}$ | $A^{-}$ | $\underline{\text { U }}$ | A - | Aa - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Letter used to label the tool | A | B | C | D | E | F | G | H |

vii).


Above is an advertisement published in the internet by Southern Provincial Department of Education to "uniquely join all the schools in Southern Province by the connection of Google for Education to provide free cloud computing facilities for all the schools in province".
a. Mention two benefits for schools by using cloud computing facility.
b. Mention a disadvantage which may face by difficult school when going to fulfill this facility.
viii).


## School vacation

## Schools are not held from 03/02/2022, which are proposed to use as G.C.E. (A/L) examination centers.

```
Send - A (0) ↔
```

```
Send - A (0) ↔
```

If this e-mail is sent to relevant parties by placing e-mail addresses as above,
a. Whose e-mail addresses are displayed to the once in CC ?
b. Who is aware of the people sending emails to BCC?
ix). Few activities expected to be done using digital-media audio editing software, is given below.Tools used to do that are labeled from A to D in software interface. Rearrange the tools and activity correctly as shown below. Letter $\rightarrow$ Serial Number


| Serial No. | Action |
| :---: | :--- |
| 01 | Tool used to select the part from 1 to 1.30 minutes in the audio clip |
| 02 | Tool used to cut the part from 1 to 1.30 minutes in the audio clip |
| 03 | Tool used to start a live audio recording clip from 1 to 1.30 minutes to the audio clip |
| 04 | Tool used to play the recorded audio clip |

x). Segment of a Pascal code is given below. Rewrite it by correcting errors.

```
Var N1, N2, Min :Integer;
Read N1;
Read N2;
If (N1<=N2) then
        Min = N1;
Else
        Min = N2;
End.
```

2. 

i). Consider following sentences with blanks labeled as A, B, C, D, E and F. Select the most suitable term to fill the blanks in each sentence and write it as Label $\rightarrow$ Term in your answer sheet.
a. A new invention or a process which was never used or aware by people is known as .........................
b. Preventing the damage which can be happened to the computer system and its documents in an unexpected electricity power interruption is belonged to $\qquad$ .B. $\qquad$ . batch of computing.
c. You should complain to the $\qquad$ C. $\qquad$ institute after making aware of an adult, in an instance when somebody else is publishing your photographs after distorting them.
d. Decreasing the performance of the computer, destruction of software and computer network failures can be taken place due to $\qquad$ .D. $\qquad$
e. Displaying or presenting an image in a separate platform, by storing in a camera lens, which have been already captured in a different location is called $\qquad$ E. $\qquad$
f. Medium that connects users with the web host is $\qquad$ .F. $\qquad$

List of terms :\{internet, malicious software, physical protection, Information Technology Agency, logical protection, uploading software, Computer Quick Response Forum, intellectual property, Holographic image processing technology\}
ii). Few sentences are mentioned below regarding online distance education. Mention whether each sentence is an advantage or disadvantage against the label as label $\rightarrow$ advantage/ disadvantage.
a. Students and teachers can interact through internet from anywhere in the world with the education management system, as everyone is working with an own account.
b. Lack of knowledge and practice in Information and Communication Technology is an interruption to the management of information.
c. Centralized communication facilities are provided for the subscribers who have already registered.
d. Although different types of learning contents can be added, special technical skills are required to prepare them.
iii). Two computer networking topologies are labeled as A and B.

a. Name those A and B two topologies as Label $\rightarrow$ Type of network topology, respectively.
b. State label that you propose to suitable for the computer network in your school.
c. Name the network topology which is economically advantageous.
d. What are the types of cables that can be used for each of the topology?
e. Name the device that should be used to connect those networks to the internet.
3. Wellabada Maha Vidyalaya maintains a manual information system to record and manipulate the performance level of their students at grade level. This is known as the score book in the school vocabulary. Especially school leavers, who do not sit for the national level examination, often come to obtain these old records. So it is essential to protect these documents and they are currently stored in some chest of drawers in the office room. But most of these old records are getting decayed and faded at the moment.It is also a problem that the staff has to put a higher effort to find this old information while completing their daily duties.School management has decided to establish an automated information system to get rid from this current situation.
i). Answers the following questions using the above scenario.
a. Write two methodologies of gathering data that can be used to identify the requirements of this system.
b. Principal's opinion is to firstly identify the requirements to develop the system and next to plan the appropriate solutions. Features of which system development model does this process indicate?
c. Used these automated systems for

1. Write two input devices.
2. Write two output devices.
d. "However, would it be better to keep the marks in the score book too for a certain time period as we have done up to now?" Which system deployment model does this Deputy Principal's idea coincide with?
e. State an advantage of the system deployment model you have mentioned in above question C.
f. Name a testing method that can be used to test solutions in this system.
ii). Most of the teachers use video conferences to teach their students at present.
a. Name two resources that a child should have to join with video conferences.
b. It is a popular method to provide links needed to join these video conferences to the students via social media or groups. But specialists’ opinion is that it is not a secured or accepted method. Mention two reasons to prove that.
3. The following is a segment of a spreadsheet prepared by the SoraborawewaZonal Education Office to calculate the amount of additional funding required in accordance to the salary increase of academic staff in their region according to the 2020 Budget Proposals.Use it to provide answer for the following

| 4 | A | B | C | D | E | F | G | H |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  |  | Special allowance for public servents |  |  | 5000 |
| 2 | Employee category | Grade | Existing | 2022 increase | increase | Percentage | No. of employees | Extra provisions for salary |
| 3 | SLTS | 3- ii | 27740 | 31490 | 3750 | 13.5 | 101 | 378750 |
| 4 |  | 3-i C | 29540 | 34160 | 4620 | 15.6 | 80 | 369600 |
| 5 |  | 3 i- B | 30140 | 36250 | 6110 | 20.3 | 201 | 1228110 |
| 6 |  | 3-i- A | 32200 | 37835 | 5635 | 17.5 | 550 | 3099250 |
| 7 |  | 2-ii | 33200 | 39175 | 5975 | 18 | 751 | 4487225 |
| 8 |  | 2-i | 39175 | 47425 | 8250 | 21.1 | 654 | 5395500 |
| 9 |  | i | 44950 | 56770 | 11820 | 26.3 | 350 | 4137000 |
| 10 | SLTAS | ii | 34615 | 41385 | 6770 | 19.6 | 22 | 148940 |
| 11 |  | i | 46000 | 53520 | 7520 | 16.3 | 31 | 233120 |
| 12 | SLPS | iii | 35280 | 42179 | 6899 | 19.6 | 20 | 137980 |
| 13 |  | ii | 40040 | 48685 | 8645 | 21.6 | 24 | 207480 |
| 14 |  | i | 46325 | 58345 | 12020 | 25.9 | 15 | 180300 |
| 15 |  |  |  | Highest increase | 12020 |  | 2799 | 20003255 |
| 16 |  |  |  | Least increase | 3750 | Average value of increase |  | 7146.57 |

i). Write the formula using cell addresses to be entered into the cell H 3 , to calculate the extra provisions for the employees in grade 3-ii of SLTS category.
ii). Write down the formula displayed in cell H14, if we copy the formula written in the cell H3 into H14.
iii). Write the functionthat should be mention in the cell H 15 to find the amount of extra provisions needed for all employeesusingtheformula=function(Cell1:Cell2).
iv). Write down the function using the model =function(Cell1:Cell2) to find the highest salary increase of an employee in cell E15.
v). Write a spreadsheet function to be entered into cell H 16 to find the average value of salary increases.
vi). If the government decided to award the special allowance of Rs.5000/- mentioned in cell H 1 to all these employees in addition to other salary increases, write the formula to be entered to calculate the amount of salary increase with the special allowance for an employee in SLTS 3-ii category using the formula $=($ Cell1+Cell2) *Cell3 and that should be applicable to get the increases of rest of employees by copying the formula)
vii). Select appropriate two types of charts out of following list to graphically represent the increases of employees with their service or employee category.
List of terms: \{Pie, Line, Column, XY Scatter, Area\}
5. A segment of a database maintained by a bookshop is given below. Write answers for the questions using them.

## Book_Table

| Book_Number | Book_Name | Author_Name | Book_Type | Price | Quantity |
| :--- | :--- | :--- | :--- | :--- | :--- |
| B001 | Four Secret Signs | Arthur Collin Doily | Translation | 475 | 200 |
| B002 | Mirage | Martin Wickramasinghe | Novel | 300 | 100 |
| B003 | Anna Carolina | Leo Tolstoy | Translation | 800 | 150 |
| B004 | Manikkawatha | Mahinda Prasad Masimbula | Novel | 450 | 400 |

## Sales_Detail_Table

| Bill_Number | Client_Number | Book_Number | Quantity_Received |
| :--- | :--- | :--- | :--- |
| 2001 | 1001 | B004 | 50 |
| 2002 | 1003 | B003 | 10 |
| 2002 | 1003 | B002 | 120 |
| 2003 | 1002 | B004 | 100 |

## Client_Table

| Client_Number | Name | Telephone_Number |
| :--- | :--- | :--- |
| 1001 | KavindaNishan | 0771155628 |
| 1002 | NaveeshaNirwan | 0781225645 |
| 1003 | TharushiPerera | 0751298491 |
| 1004 | PasanGimsara | 0711564893 |

i). Provide two examples for primary key against table names separately (As Field $\rightarrow$ Table)
ii). What are the field names that can be used as composite key other than the primary key, if book number is removed from the above table? (No marks are given if the answer is incorrect or contains invalid answers)
iii). Which tables should be updated, if a customer named Chamith Ishara bought 150 books from "Four Secret Signs"?
iv). Show how tables are updated that you mentioned in above question number iii).
v). Write 04 features of an electronic database.
i). The HTML source for the web page shown in Figure 1, is shown in figure 2. But in the source code some essential tags have been missed which are labeled as 1 to 10 in figure 2 . Select the suitable tag for each label from the list of tags give below and write it against the label name in your answer sheet.

List ofitems: \{table, br, h1, head, img, a, th, colspan, ul, p, tr, td, ol, li, hr, href\}

| SPEDU- Grade 11 Assessment |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Address : Southern Province Education Department, Galle. Phone: 091-2234234 |  |  |  |  |  |
| Time | Monday | Tuesday | Wednesday | Thursday |  |
| 8.30am - 9.30am | Maths (1) | English (1) | History (1) | Tamil (1) | Sinhala (1) |
| $9.30 \mathrm{am}-10.30 \mathrm{am}$ |  |  | INTERVA |  |  |
| 10.30am - 11.30am | Maths (2) | English (2) | History (2) | Tamil (2) | Sinhala (2) |
| Guidelines |  |  |  |  |  |
| - Do not bring r <br> - Do not copy fr <br> - Do not write <br> Anyone who doesn' | mobile ph from others answers w <br> 't follow th | nes <br> th pencil <br> ese rules will | ll not get full | marks. |  |

Figure 1: Web page

```
<html>
<1>
<title>Exam Timetable</title>
</1>
<body>
<3 border='1'>
<tr>
<td colspan = '5'>
<2>
SPEDU - Grade 11 Assessment
</2>
<hr>
<div>
<i>Address: Southern Province Education Department, Galle.</i>
</div>
<div>
<i>Phone: 0912234234</i>
</div>
</td>
<td>
<4 width = '100' src="book.png" alt="">
</td>
</tr>
```

```
<tr>
<5>Time</5>
<5>Monday</5>
<5>Tuesday</5>
<5>Wednesday</5>
<5>Thursday</5>
<5>Friday</5>
</tr>
<6>
<td>8.30am - 9.30am</td>
<td>Maths (1)</td>
<td>English (1)</td>
<td>History (1)</td>
<td>Tamil (1)</td>
<td>Sinhala (1)</td>
</6>
<tr>
<td>9.30am-10.30am</td>
<td 7 = '5' style = "text-align: center;">INTERVAL</td>
</6>
<tr>
<8>10.30am - 11.30am</8>
<8>Maths (2)</ 8>
<8>English (2)</ 8>
<8>History (2)</ 8>
<8>Tamil (2)</ 8>
<8>Sinhala (2)</ 8>
</tr>
<tr>
<td 7 = '6'>
<h2>Guidelines</h2>
<9>
<li>Do not bring mobile phones</li>
<li>Do not copy from others</li>
<li>Do not write answers with pencil</li>
</9>
<br>
<b><i>Anyone who doesn't follow these rules will not get full marks.</i></b>
</td>
</tr>
</3>
<10>
    Go to our <a href="/help">Help Page</a>
</10>
</body>
</html>
```

Figure 02: HTML source code
ii). Write the most suitable term for each statement against the label of each statement as Label $\boldsymbol{\rightarrow}$ Term in your answer sheet.

| Label | Description |
| :---: | :--- |
| a | Websites those stay stable for a long time period without changing its web context. |
| b | which operates internet without an owner. |
| c | uniquely identify computers in the internet. |
| d | used to explore any information that the internet users need easily. |

List of terms: \{static web sites, web browser, IP addresses, domain name, protocol, search engines, artificial intelligence\}
7. Ceylon Electricity Board (CEB) has divided the country to the following zones and has announced the time schedule of electricity power interruption in accordance to the decision taken by the government to interrupt electricity.

Further, CEB is planning to chang time schedules of power cut, in future.Therefore, CEB hopes to dev a mobile application for that for convenience of the consumers.

Imagine, agroup of members have $b$ selected with you to develop this mc application.

i). Partially completed flow chart should add to the labels P to T tı
ii) Your team is preparing Pascal । the above flow chart. But it errors. Those errors have been l Nas shown here. Write dov codings for each of the blanks.

$$
\begin{aligned}
& \quad \ldots \mathrm{L} \_ \text {:time := '18.30-19.30'; } \\
& \text { else } \mathrm{M} \text { :time := '19.30-20.30'; } \\
& \text { end; } \\
& \text { if( } \overline{\text { writeleln('invalid zone number.'); }} \mathrm{N} \overline{\mathrm{~N}} \text { ('The time for power cut is at ',time); AND (zoneNo<=100) then } \\
& \text { end. }
\end{aligned}
$$







