Information & Communication Technology   **Part II**   **2 hours**
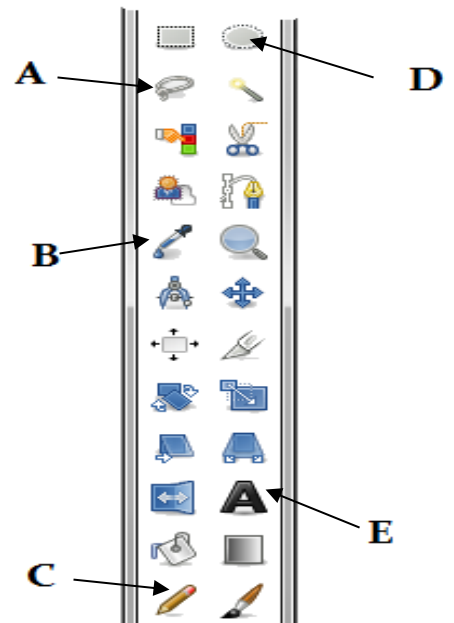
Answer five questions. The first question is compulsory.

1. **Follow the given instructions and answer all the questions.**

   i. Express the hexadecimal number A2B using the BCD representation.

   ii. Copy the column **A** and column **B** to your answer sheet and connect each item in column A with the related item in column B using arrows.

column **A**	column **B**
FTP	keyboard layout
com	Thunderbird
email software	File exchange
QWERTY	Top level domain

   iii. Name the digital graphic category we should use for high quality graphics.

   iv. A storage device has a capacity of 600 Giga Bytes. Express that amount in bits.

   v. An image uses 32 colors per pixel. Find the bits per pixel used.

   vi. Explain what is meant by intellectual proprty right?

   vii. Mala got Rs. 20 from her father and Rs. 60 from her mother to buy a book. Express the octal equivalent of the total value.

   viii. Name two system development models.

   ix. Write two advantages of MICR.

   x. Following diagram displays some common tools of an image editing software.Write the purpose of each lable tools from A to. E.

2. The given spreadsheet displays the tallest buildings in the world.

	A	B	C	D	E	F
12						
13		Building	City	Country	Metres	Cost ($m)
14		Woolworth Building	New York	United States	241	14
15		G.E. Building	New York	United States	259	36
16		40 Wall Street	New York	United States	283	20
17		American International Building	New York	United States	290	92
18		Chrysler Building	New York	United States	319	96
19		Empire State Building	New York	United States	381	41
20		Palace of Culture and Science	Warsaw	Poland	231	34
21		Moscow State University	Moscow	Russia	239	43
22		Bank of America Center	San Francisco	United States	237	69
23		MetLife	New York		246	43
24		One Chase Manhattan Plaza	Ne			
107		Faisaliah Complex	Riyadh	Saudi Arabia	274	99
108		Plaza66	Shanghai	China	288	91
109		Emirates Tower Two	Dubai	Dubai	309	66
110		Kingdom Centre	Riyadh	Saudi Arabia	345	86
111		Emirates Tower One	Dubai	Dubai	355	52
112						
113						
114		Grand Total				
115		Average				
116		Highest				
117		Lowest				

i.   Write the name of the function you would use in the cell C114 to calculate the total cost spent to build these buildings.

ii.   Write the formula you would write the cell C115 to calculate the average height of buildings.

iii. Write the steps you would use to display the names of buildings in their alphabetical order?

iv.   Write the formula you would write to find the number of buildings in the spread sheet.

v.   Write the name of the function you would use to find the height of the highest building.

vi.   You have been asked to display the buildings with their heights using a chart. Write two types of charts suitable for it.

3. Soora Sisu Vidyalaya is going to automate its functions due to problems in the existing manual system. Most of the staff do not like this idea due to lack of ICT skills. But the ICT teacher who has a teaching service of 20 years supports this idea. He is going to automate the functions of school with the A/L ICT students.

    i.   Briefly explain two problems that could be found in a manual system.

    ii.   Name two data collection methods that are used in developing a new system.

    iii.   Name two activities that are carried out at the design stage.

    iv.   Briefly explain what happens at the coding stage?

    v.   What would be the most suitable deployment method for this system? Support your answer by giving a reason.

4. A photo copier works efficiently when both of the following conditions are met.

- When room humidity is between 30% to 50%
- When room temperature is above 20ºC and below 30ºC

When you need to take photo copies when the above conditions are not met there is a special switch which should set to 1

    i.   Design a suitable logic circuit for the above photo copier using AND, OR, NOT gates only.

    ii.   Write the Boolean expression(no need to simplify) to represents logic circuit of above system

    iii.   Construct a truth table to represent the functionality of the above system.

5. a. XYZ Company is a software firm which has 150 employees. A payroll program is designed to calculate the pay for those employees. The following conditions should be applied when calculating the pay.

- The first 25 hours of a week the employees are paid at the basic rate of the pay.
- Hours over 25 are paid at the rate of 1.5 times the basic rate of the pay.
- No employee is paid for more than 40 hours in any week.
- The basic rate of the pay is Rs.1000.00

The following flow chart has been designed to calculate the above using the given variables.
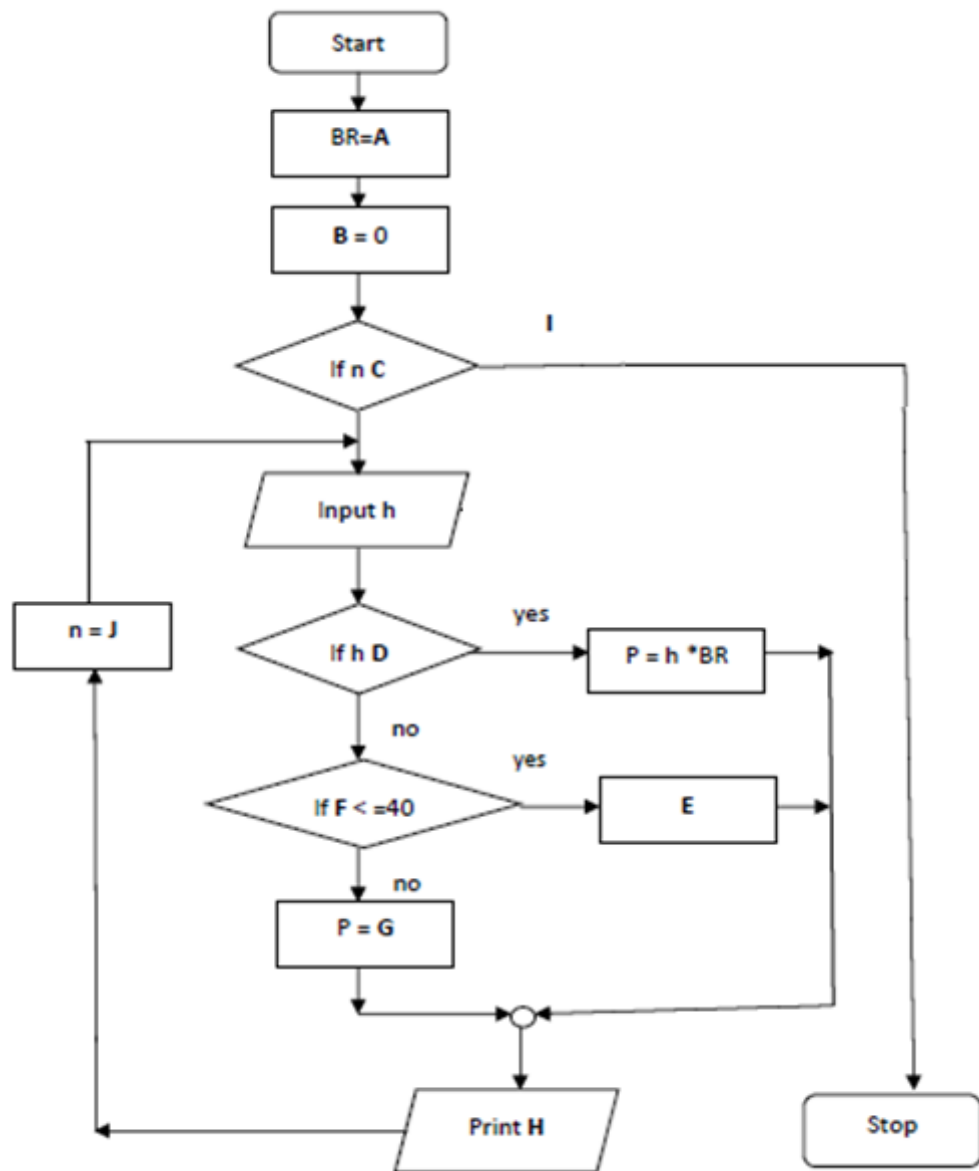
    BR= basic rate   P = pay

    h= no of hours worked for a week

    n= no of employees

    Complete the flow chart by completing the labels A to J.

Flowchart:

- Start
- BR = A
- B = 0
- If n C → (I, yes branch to right) → Stop
  - (down) Input h
    - If h D → yes → P = h *BR
    - (no, down) If F < =40 → yes → E
      - (no, down) P = G
  - n = J (left loop)
- Print H

b. Write the pseudo code for the above flow chart in a. You should use the same variable names.

6. a. Today ICT has become an important part of day-to-day life. Most human activities now take place with the aid of ICT solutions. The reason for that is ICT gives effective and speed solutions to the real life problems. Yet ICT has created social problems too. Name two social issues related with ICT and explain one of them.

b. Consider the HTML source code and its corresponding output given below. The code consists of ten HTML tags which are indicated by labels ① to ⑩.Write the most suitable HTML tags against the label.

Eg: suppose ① is I you have to write ① = I

source code

```
<html>
<head>
<①>Books that will change your life</①>
</head>
<body>
<②>Books that will change your life</②>
<③>
Are you looking for books that will change your life?
<④>Do you want to get make a real change?
<⑤><⑥><⑦>These 10 books absolutely fit that
    criteria.</⑦></⑥><④>
Read them, but more importantly, do what they tell you.<④>
It is your acting not just your reading that will get you the
    best results. <④>
These books however will give you the framework that you need to
    take action:
<ol ⑧ ="i"><li>The War of Art by Steven Pressfield</li>
<li>Turning Pro – by Steven Pressfield</li>
<li>Flow: The Psychology Of Optimal Experience – by Mihaly
    Csikszentmihalyi</li>
<li>As a Man Thinketh – by James Allen</li>
<li>Mastery – by Robert Greene</li>
<li>The Alchemist – by Paulo Coelho</li>
<li>Awaken The Giant Within – by Anthony Robbins</li>
<li>The Game – by Neil Strauss</li>
<li>The Way Of The Superior Man – by David Deida</li>
<li>7 Habits Of Highly Effective People – by Stephen R.
    Covey</li></ol>
<a ⑨="topten.html">Discover our Top Fifty Books</a>
< ⑩src=books.jpg align=center>
</body>
</html>
```

output

Books that will change your life

Are you looking for books that will change your life?
Do you want to get make a real change?

These 10 books absolutely fit that criteria.
Read them, but more importantly, do what they tell you.
It is your acting not just your reading that will get you the best results.
These books however will give you the framework that you need to take action:

   i. The War of Art by Steven Pressfield
  ii. Turning Pro – by Steven Pressfield
 iii. Flow: The Psychology Of Optimal Experience – by Mihaly Csikszentmihalyi
 iv. As a Man Thinketh – by James Allen
  v. Mastery – by Robert Greene
 vi. The Alchemist – by Paulo Coelho
 vii. Awaken The Giant Within – by Anthony Robbins
viii. The Game – by Neil Strauss
 ix. The Way Of The Superior Man – by David Deida
  x. 7 Habits Of Highly Effective People – by Stephen R. Covey

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