First Team Test – 2019
Information Communication Technology -12 – Part II

Important:
* **Answer four questions from part** B.

Part B
Essay

(1)
1. Describe the cloud computing concept ?
2. State three characteristics of cloud computing concept
3. Name three services of cloud computing and give example for each service
4. Write two advantages and two disadvantages of cloud computing.
5. What is mobile computing?
6. State four incidents that a student can use cloud computing and mobile computing for his studies.
7. Name two legal issues in the usage of ICT and write two methods that can be taken to eliminate those issues.

(2)
1. Write two advantages of direct data input devices over keyboard.
2. Briefly describe how the role of cache memory affect in the efficiency of the computer
3. " Computer programs are stored in the memory of the computer. The processor (CPU) fetches an instruction from the memory at a time and executes it "
   Name the cycle that represents the above process and draw a diagram to depict the four steps of the above process.
4. (a) Describe about a multi-core processor.
   (b) Write two advantages of having a multi-core processor in a computer.
5. Draw the Von Neumann architecture and name the major components of it.

(3) An automotive engineer wants to design a logic circuit that prohibits the engine in a car from being started unless the driver is pressing the clutch pedal while turning the ignition switch to the" start" position. The purpose of this feature will be to prevent the car from moving forward while being started if ever the transmission is accidently left in gear.

Suppose we designate the status of the ignition switch" start" position with the Boolean variable S (1 =start; 0 = run or off), and the clutch pedal position with the Boolean variable C (1 = clutch pedal pressed;0 = clutch pedal in normal, un-pressed position).

a) Obtain the truth table for the output Z for the starter solenoid status, given the start switch (S) and clutch (C) statuses.
b) Write the Boolean expression for output Z
c) Draw a logic gate circuit to implement this Boolean expression.

(4) 1. RAM is very important in memory management process.
Explain what is RAM and compare the differences between static RAM and dynamic RAM.
2. Give two reasons why the automatic data process is more advanced in processing a large amount of data over namual data process
3. Write the respective output after applying bitwise AND, OR and XOR operations for the numbers 32 and 24
4. Explain about range check and mention a usage of it.

(5) 1. Name the three main types of computer monitors and name the technology used in each type.
2. Compare two differences between the three types of monitors you mentioned above.
3. Write an advantage and disadvantage of BCD, ASCII, EBCIDIC and UNICODE which are used in data representation inside the computer.
4. Describe the term "universal gates" and name two logic gates relevant to it.

(6) The advancement of ICT has directly affect the development of various countries.
1. Describe the terms Hardware, Software and Firmware using examples.
2. Describe two economic and two environmental issues caused by ICT.
3. Describe the role of ICT in developing a country using two factors.
4. What is the process you should obey when you are coping and representing someone else's creation or a part of a creation?