**Gulistan Academy**

Physics (10th) Max.Marks = 25

Chapter No.16 (Basic Electronics) Pass Marks = 15

Time = 30 minutes

**Question No.1: Multiple choice questions. (1**x**6 = 6)**

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| 1. The process by which electrons are emitted by a hot metal surface is known as | | | |
| 1. Boiling | 1. Evaporation | 1. Conduction | 1. Thermionic Emission |
| 1. The particles emitted from a hot cathode surface are | | | |
| 1. Positive ions | 1. Negative ions | 1. Protons | 1. Electrons |
| 1. AND gate can be formed by using | | | |
| 1. NOT gates | 1. OR gates | 1. NOR gates | 1. NAND gates |
| 1. If X = A.B, then X is 1 when: | | | |
| 1. A and B are 1 | 1. A or B is 0 | 1. A is 0 and B is 1 | 1. A is 1 and B is 0 |
| 1. The output of a NAND gate is 0 when | | | |
| 1. Both of its inputs are 0 | 1. Both of its inputs are 1 | 1. Any of its inputs is 0 | 1. Any of its inputs is 1 |
| 1. The output of a two-input NOR gate is 1 when | | | |
| 1. A is 1 and B is 0 | 1. A is 0 and B is 1 | 1. Both A and B are 0 | 1. Both A and B are 1 |

**Question No.2: Give short answers. (2**x**6 = 12)**

1. Explain the deflection of electrons through a uniform Electric Field.
2. Explain the deflection of electrons through a uniform Magnetic Field.
3. Write down some benefits of Digital Electronics over Analog Electronics.
4. NAND gate is the reciprocal of AND gate. Discuss.
5. Show that the circuit given blow acts as OR gate:

*A Y*

*B*

1. Briefly explain the house safety alarm.

**Question No.3: (4+3 = 7)**

1. What is Cathode Ray Oscilloscope? Explain the working of its different parts.
2. What are the three Universal Logic Gates? Give their symbols and truth tables.

***Best of luck***