**University of Djilali BOUNAAMA Khemis Miliana M1 Physics**

**F Faculty: Science and Technology Scientific English I**

**D Department: Material Science 2022/2023**

 **Last name: ……………….. Group: ………..**

**Firs First name: ……………….**

**Final Exam**

**Exercice 01. Choose the correct answer/answers to the following statements (10 pts)**

* **QCM.1. A scalar is**
1. a quantity that has magnitude only.
2. a quantity that has magnitude and direction.
3. a quantity that has direction only.
* **QCM.2. A vector is**
1. a quantity that has magnitude only.
2. a quantity that has magnitude and direction.
3. a quantity that has direction only
* **QCM.3. The velocity of a wave is**
1. The distance that the wave profile moves per unit time.
2. Energy per second passing normally through a given area.
3. The number of cycles of oscillation performed by any particle in the medium through which the wave is passing.
4. The number of cycles of a wave that pass a given point in one second, or equivalently.
* **QCM.4. Frequency of a wave is**
1. The distance that the wave profile moves per unit time.
2. Energy per second passing normally through a given area.
3. The number of cycles of oscillation performed by any particle in the medium through which the wave is passing.
4. The number of cycles of a wave that pass a given point in one second.
* **QCM.5. Intensity of a wave is**
1. The distance that the wave profile moves per unit time.
2. Energy per second passing normally through a given area.
3. The number of cycles of oscillation performed by any particle in the medium through which the wave is passing.
4. The number of cycles of a wave that pass a given point in one second, or equivalently.
* **QCM.6. Potential difference (p.d.), V is**
1. The energy converted from electrical potential energy to some other form per coulomb of charge flowing from one point to the other.
2. The current flowing through a metal wire at constant temperature is proportional to the p.d. across it.
* **QCM.7. Atomic mass number, A is**
1. The number of protons in its nucleus.
2. The number of neutrons in its nucleus.
3. The number of nucleons in its nucleus.
* **QCM.8. Atomic number, Z is**
1. The number of protons in its nucleus.
2. The number of neutrons in its nucleus.
3. The number of nucleons in its nucleus.
* **QCM.9. Isotopes are**
1. atoms with the same number of protons, but different numbers of neutrons in their nuclei.
2. atoms with the same number of neutrons, but different numbers of protons in their nuclei.
3. atoms with the same number of nucleons, but different numbers of protons in their nuclei.
* **QCM.10. Ionisation is**
1. The removal of one or more electrons from an atom.
2. The removal of one or more protons from an atom.
3. The removal of one or more neutrons from an atom.

* **QCM.11. The ionization energy of an atom is**
1. The minimum energy needed to remove an electron from the atom.
2. The maximum energy needed to remove an electron from the atom.
3. The minimum energy needed to place an electron in the atom.
4. The maximum energy needed to insert an electron in the atom.
* **QCM.12. A resistor is**
1. an electrical component that provides electrical resistance in a circuit.
2. an electronic measuring instrument that combines several measurement functions in one unit.
3. An instrument used for measuring electrical potential difference between two points in an electric circuit.
* **QCM.13. Multimeter is**
1. An electrical component that provides electrical resistance in a circuit.
2. An electronic measuring instrument that combines several measurement functions in one unit.
3. An instrument used for measuring electrical potential difference between two points in an electric circuit.
* **QCM.14. Voltmeter is**
1. An electrical component that provides electrical resistance in a circuit.
2. An electronic measuring instrument that combines several measurement functions in one unit.
3. An instrument used for measuring electrical potential difference between two points in an electric circuit.

**Exercice 02 (10 pts). Briefly explain what is the scientific method need to be followed to design an experiment.**

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* **QCM: Right answer (+1) / false answer (-1)**
* **The answer must be written on the examination paper with a pen. Papers copied from another paper will not be accepted for correction.**
* **Unclear answers are not corrected.**