

Spécialité : 2<sup>ème</sup> année Master Energétique Module : Transport and Storage of Energy Durée : 1h.30

الاسم واللقب: ..... الفوج: ..... رقم التسجيل: .....

### End of 3<sup>rd</sup> semester exam corrected type (2023-2024)

#### I. Complete the sentences with the appropriate words.

Electricity - refined- renewable- kinetic- fossil- thermal- Thermal energy- Nuclear- economical- electrostatic

1. **Thermal energy** provided by the combustion of coal, oil, gas,
2. Energy is available in potential form, and it is used in **kinetic** form.
- 3 In thermal power plants, **fossil** energy is converted into electrical energy
4. **Nuclear** power plants do not emit greenhouse gases.
5. Pipeline transport is generally the most **economical** way to transport oil or natural gas over long terrestrial distances.
6. The transport of oil by truck is mainly reserved for **refined** products.
7. **Electricity** cannot be stored directly. It is therefore essential to convert the energy into other forms in order to store it.
8. The use of capacitors or supercapacitors makes it possible to store electrical energy in **electrostatic** form.
9. We do not know how to transform chemical energy contained in coal directly into electrical energy. We have to use **thermal** energy.
10. Oil, gas, coal, used in thermal power plants, uranium, plutonium, used in nuclear power plants, are not **renewable** energies. Their reserves are limited and running out.

#### II. Answer with Yes or No

N°		yes	No
1	Energy can not be located in potential or kinetic form		x
2	Energy is created or suppressed: it cannot be conserved		x
3	Energy can be transferred according to tow principles: in the form of work, heat.		x
4	Thermal power plants are means of producing very clean energy		x

<b>5</b>	Renewable energies come from exhaustible sources		<b>x</b>
<b>6</b>	Depending on the product being transported, pipelines have specific names: gas pipeline, oil pipeline,( gazoduc, oléoduc)	<b>x</b>	
<b>7</b>	The pipeline transport of these hydrocarbons mainly uses steel pipes, welded together and coated to better withstand corrosion and chemical or mechanical damage.	<b>x</b>	
<b>8</b>	Injection or departure stations are the network entry points. Depending on their configuration and geographical location, these can be landfall stations, terminals, inlet stations	<b>x</b>	
<b>9</b>	The capacity of the battery represents the amount of electric charge it can store. It is expressed in Coulombs (C) or Ampere-hours (Ah).	<b>x</b>	
<b>10</b>	Flywheels store energy in kinetic form. They consist of a rotating mass around an axis.	<b>x</b>	

**Good luck**