

Algerian Democratic and Popular Republic
Ministry of High Education and Scientific Research
University of El Arbi Ben M'Hidi, Oum-El-Bouaghi
Department : Biological Engineering
Field: Food Science
Specialization : Product Quality and Food Safety
Level : 1st year Master
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First semester exam of food packaging (correction)

Exercise 1: Choose the correct answer. (6pts)

1	2	3	4	5	6	7	8	9	10	11	12
B	C	C	B	B	D	A	B	B	C	D	B

Exercise 2: Write True (T) or False (F). (3pts)

1. Packaging has no effect on consumer behavior. **False**
2. Glass is impermeable to gases. **True**
3. Tertiary packaging is in direct contact with food. **False**
4. Active packaging can absorb oxygen. **True**
5. Packaging is part of the circular economy. **True**
6. Color has no psychological effect on consumers. **False**

Exercise 3: Fill in the blanks using appropriate words. (5pts)

1. The four main functions of packaging are **containment, protection, convenience (practicality), and information.**
2. PLA is a **biodegradable (bio-based)** polymer used in sustainable packaging.
3. MAP stands for **Modified Atmosphere Packaging.**
4. Packaging that provides real-time information is called **smart (intelligent)** packaging.
5. Glass, metal and paper are **traditional** materials.
6. The process of designing eco-friendly packaging is called **eco-design (ecodesign).**

Exercise 4: Complete the following table. (3 pts)

Packaging level	Role	Example
Primary	Direct contact with food, main protection	Bottle, can, plastic pouch
Secondary	Groups several primary packages	Cardboard box
Tertiary	Transport and handling of secondary packages	Pallet, shrink wrap

Exercise 5: Define **three** of the following (3 pts)

1. Active packaging

Packaging that interacts with the product or environment to extend shelf life (e.g., oxygen absorbers, antimicrobial films).

2. Smart packaging

Packaging that provides information about the product condition (temperature, freshness, traceability).

3. Circular economy

An economic system based on reducing waste, reusing materials and recycling resources to protect the environment.

4. Primary packaging

Packaging in direct contact with the food product (bottle, sachet, can).

5. Barrier properties

The ability of packaging material to prevent transfer of gases, moisture, light or odors.