

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1729

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Unique Paper Code : 2202033601

Name of the Paper : Food Packaging

Name of the Course : **B.Sc. (Hons) Food Technology (NEP-UGCF)**

Semester : VI, Core

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions
3. Question No. **1** is compulsory.
4. **All** questions carry equal marks.

1. Answer briefly. (**Any Nine**) (2×9=18)

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|-----------------|-------------------|
| (a) Packaging | (b) Lamination |
| (c) Corrugation | (d) Tinfoil |
| (e) Aseptic | (f) Permeability |
| (g) Tensile | (h) Bursting |
| (i) COBB | (j) Labeling |
| (k) Porosity | (l) Biodegradable |

2. (a) Describe the different types of flexible packaging materials and their applications in food packaging. (9)

(b) Explain the manufacturing process and applications of corrugated board used in food packaging. (9)

3. Differentiate between : (6×3=18)

- (a) Semi-rigid packaging and rigid packaging.
- (b) Active packaging and intelligent packaging.

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- (c) Tensile strength and bursting strength of packaging materials
4. (a) Describe suitable packaging systems for fresh horticultural produce and frozen foods. (9)
- (b) Explain the different testing procedures used for evaluating food packaging materials. (9)
5. Differentiate between the following : (6×3=18)
- (a) Thermosetting vs. Thermoplastic polymers
- (b) DRD vs. DWI process of can making
- (c) Injection molding vs. Blow molding
6. (a) What is sustainable packaging? Discuss the environmental implications of green packaging solutions and their role in reducing carbon footprint. (9)
- (b) Summarize the key provisions of the Food Safety and Standards (Packaging and Labelling) Regulations, 2018 (FSSAI) applicable to processed foods. (9)
7. A dairy company plans to launch sweetened condensed milk for retail distribution across India. During pilot trials., the product packed in plastic pouches showed shorter shelf life, swelling of packs, and quality deterioration, while the product packed in metal cans remained stable for several months. The company now wants to redesign its packaging system to ensure product safety, extend shelf life, and improve transportation efficiency.

Based on the above information, answer the following:

- (a) Identify the factors responsible for the spoilage and swelling of the pouch packs. (6)
- (b) Suggest a suitable packaging material and packaging system for condensed milk and justify your choice. (6)
- (c) Explain the tests that should be performed to evaluate the quality and transport worthiness Of the selected package. (6)