

Ref. No.: Ex/PRN/Honours/H/T/415/2024
Bachelor of Printing Engineering Examination, 2024
(4th Year- 1st Semester)
Package Printing (Hons.)

Time : Three hours

Full Marks: 100

Group - I

Answer any two questions.

1. What is modified atmosphere packaging? What is MVTR? How can it be calculated? How packaging materials can be classified based on MVTR? 10(2+2+3+3)
2. What is the objective of preservation function? What is the key factor in maintaining preservation function? What is biotic spoilage? What are the conditions to be considered to control the biotic spoilage? 10 (1+1+ 2+6)
3. (a) What are the different technical and marketing packaging functions are there? How protection function can be evaluated? 7
(b) 'Plastics have replaced the more traditional materials such as glass and metal in some packaging applications' – Explain. 3

Group - II

Answer question no. 4 and any two from the rest.

4. (a) Write down the advantage and disadvantage of Gravure process in the context of package printing. 5
(b) Briefly describe the three stage packaging design process with a proper flow chart. 7
(c) Why deformation software is used at reprographic stage of package designing? 3
(d) What are the causes of delay in linear packaging lines? How the delay can be minimized? 5
5. (a) 'In relatively recent times the printing and packaging industry has embraced ultraviolet drying technology'- Explain why? 5
(b) Describe the body printing method of screen process with proper diagram. 5
(c) What are the different inspection processes in the print production of packaging materials are there? Explain each one. 5
6. (a) Explain the use of Dry offset letterpress in packaging applications with its basic principle of operation. 6
(b) What is splashing? Explain. 2
(c) What are the key properties of plastic to be considered for packaging application? Explain any two properties with their packaging application. 7

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7. (a) How many times can a cellulosic fiber be reused? Explain with its pros and cons. 5
- (b) "The use of cellulose films has declined in recent years due to competition from BOPP" - Why? 5
- (c) Write about the functional packaging requirements. Write about the factors based on which packaging requirements can be identified. 5

Group - III

Answer the following questions.

8. (a) Discuss about the sensory special effects used in packaging. 3
 - (b) What are the drawbacks of fluorescent effect while used for package printing? 2
 - (c) What is simultaneous contrast? 2
 - (d) 'By using special ink systems embossing effects can be created'- Explain. 3
 - (e) 'Packaging must meet the needs of society in a sustainable way'-Explain. 5
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9. (a) What are the different foil finishes are there? What are the protective functions provided by foil coatings? 5
 - (b) What are the different type of adhesives are used for foil lamination? What are the different methods of making foil laminate? Explain any one method. 10