Ref. No.: Ex/PRN/Honours/H/T/415/2025

Bachelor of Printing Engineering Examination, 2025
(4th Year- 1st Semester)
Package Printing

Time:3 hrs **Full Marks: 100**

Group - I
Answer any one question. (20)

(1) (a) 'Calculated barrier levels should be regarded as minimum values in calculating the required barrier' –Explain. 5
(b) Discuss in brief about the containment failure points and possible causes for different pack types. 5
(c) 'The use of conventional screening can cause a problem when using hexachrome'- Explain why? How the problem can be resolved? 5
(d) Write down the key steps to evaluate the risk of leakage of a package. How leak testing can be done? Write down the potential failure points and possible causes for bottles. 5

(2)(a) Discuss about the protective functions of different foil finishes and coatings. 5
(b) Write down the application of ethylene vinyl alcohol and polystyrene in packaging. 5
(c) What is MVTR? How it can be calculated? How packaging materials can be classified based on MVTR? 5
(d) 'Hexachrome popularity has steadily grown, particularly in certain areas of the packaging market' – Explain stating pros and cons. 5

Group - II
Answer the following questions. (50)

(3)(a) Discuss about different proofing and approval process of package printing. 5
(b) Explain the use of Dry offset letterpress in packaging applications with its basic principle of operation. 5

(4)(a) Describe the process of preparing conceptual design from its outset. 6
(b) Write down the checklist for a packaging brief in different categories. 4
(c) Differentiate between demographic and psychographic data. 5
(d) Describe about different packaging design components in details. 5

(5)(a) Why deformation software is used at reprographic stage of package designing? 3
(b) Describe the process of making aluminium metallised films. 5
(c) Explain wrap tooling and tampo printing. 6
(d) Describe the continuous casting process of aluminium foil with schematic diagram. 6

[Turn over

Group - III
Answer any one question. (20)

(6)(a) 'A change in relative humidity can result in a loss of the case stacking strength of paperboard' –Explain. 4
(b) Compare between column and interlock pallet stacking system. 4
(c) Discuss about different special effects that can be designed into packaging. 4
(d) Write down the advantage and disadvantage of UV drying technology. 4
(e) 'Paper and paperboard, when combined with selected materials, can result in materials with significantly enhanced properties'- Briefly explain. 4

(7)(a)Describe the different inspection processes in the print production of packaging manufacturing in brief. 6
(b) Describe the process of filling of solid products by volume with a schematic diagram. 7
(c) Which kind of equipment is used to make label inks for paper and paper board? Write down a fast drying formula for labels. How non-curl property is achieved in this kind of inks? 5
(d) What is simultaneous contrast? 2

Group - IV
Answer any two questions. (10)

(8) How many times can a cellulosic fiber be reused? Explain with its pros and cons. 5
(9) 'Packaging must meet the needs of society in a sustainable way'–Explain. 5
(10) What is biotic spoilage? Briefly describe the factors which affect this spoilage. 5