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SEAT No. _____

No. of Printed pages: 2

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SARDAR PATEL UNIVERSITY
M.Sc. 3rd Semester (Surface Coating Technology) Examination (CBCS)
Wednesday, March 27th, 2019
Time: 2:00 pm to 5:00 pm
Course No.: PS03ESCT22

Subject: Technology of Packaging & Printing Inks

Total Marks: 70

- N.B.** (1) Marks allotted to the question are on its RHS
(2) Illustrate your answers wherever necessary with the help of neat sketches & chemical equations

Q.1 Choose the correct option

- (1) Which printing is called as planography printing process? (1)
a. Letterpress b. Lithography c. Flexographic d. Gravure
- (2) The approximate ink-film thickness applied to the substrate from the Screen-printing process is _____. (1)
a. 1.5-2.5 μm b. 3-4 μm c. 2-4 μm d. more than 7 μm
- (3) Initially which printing process is called as aniline printing process? (1)
a. Letterpress b. Lithography c. Flexographic d. Gravure
- (4) _____ printing process is also called as silk printing process. (1)
a. Letterpress b. Lithography c. Screen d. Gravure
- (5) PCB printing is done by _____. (1)
a. Letterpress b. Intaglio c. Flexographic d. Screen
- (6) The objective of preservation is to _____ the shelf life of a product. (1)
a. increase b. decrease c. maintains d. none of these
- (7) _____ packaging is used for bulk handling, warehouse, storage and transport shipping. (1)
a. Primary b. Secondary c. Tertiary d. None of these
- (8) Choose non-basic functions of packaging? (1)
a. Inform b. Motivate c. Protect d. Convenient

Q.2 Answer any seven of the following (14)

1. Write principle of Lithography printing process.
2. Write the function of fountain solution in OSL.
3. "Inks solvent are largely restricted to water, alcohol and aliphatic hydrocarbon in Flexography printing". Explain.
4. What is meant by 'offset' in OSL printing?
5. State the purpose of anilox roll in flexo printing machine.
6. What is Aseptic packaging?
7. What is packaging? Enlist function of it.
8. What is shelf life?
9. What is biotic spoilage and abiotic spoilage?

(P.T.O)

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- Q.3(a) Discuss in detail factors that affect ink formulation. (6)
(b) What are the different methods by which lithography ink dry? Discuss in detail. (6)

OR

- Q.3(a) How printing ink set and dry? Discuss in detail. (6)
(b) Explain why viscosity control in Flexography printing is very much important? (6)

- Q.4(a) Write the general characteristic requirement for letterpress ink. (6)
(b) Classify non-impact printing process and write its principle on which it's working. (6)

OR

- Q4(a) Write a note on toners for NIP processes. (6)
(b) Write a note on different types of security ink. (6)

- Q.5(a) Explain preservation function of packaging in detail. (6)
(b) Discuss properties, uses, advantages and disadvantages of glass used as packaging. (6)

OR

- Q5(a) Discuss properties, uses, advantages and disadvantages of Aluminum used as packaging. (6)
(b) Explain containment function of packaging in detail. (6)

- Q.6(a) Discuss in detail how inkjet printer works. (6)
(b) Write a note on electro photography printing process. (6)

OR

- (b) Write a note on tetra pack aseptic processing and packaging. (6)

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