

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER–VIII (NEW) EXAMINATION – WINTER 2020****Subject Code:2183610****Date:21/01/2021****Subject Name:Nanoscience Technology And Pharmaceutical Packaging Technology****Time:02:00 PM TO 04:00 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	MARKS
Q.1 (a) Differentiate between nanoparticles & micro particles.	03
(b) Classify the Packaging Materials. Give an account on functions of Packaging Materials	04
(c) Explain spray drying method with neat labeled diagram for nanoparticles formulation	07
Q.2 (a) What are the advantages and disadvantages of blister packing?	03
(b) What are the different containers used in parenteral preparations?	04
(c) Write a note on packaging of Aerosol and Ophthalmic packaging	07
Q.3 (a) Write a note on closure liners and factors in selecting liners	03
(b) Classify metals and write a note on collapsible tube metals	04
(c) Define sterilization of packaging materials. What are the physical and chemical factors affecting the sterilization?	07
Q.4 (a) Write a note on child resistant packaging system	03
(b) Classify glass and write a note on glass as a packaging material	04
(c) What are the new trends in the Pharmaceutical packaging? Explain in detail.	07
Q.5 (a) Define solid lipid nanoparticles & polymeric nanoparticles	03
(b) Give applications of nanotechnology in pharmaceutical field	04
(c) Explain in detail “Top down and Bottom up technology” for nanoparticle generation	07
Q.6 (a) Define Dendrimers and give its applications	03
(b) Explain the zeta potential and particle size determination for nanoparticles	04
(c) What are micelles? Give its advantages and applications in the pharmaceutical drug delivery in detail. Draw neat labeled diagrams wherever required.	07
Q.7 (a) What are the basic components of pharmaceutical blister packaging?. Explain in brief	03
(b) Write a note on Pharmaceutical packaging stability testing.	04
(c) What are the different blister packaging machines? Explain any one of packaging system	07
Q.8 (a) Write a note on defects in packaging material	03
(b) What are the quality control tests for closures	04
(c) Explain (1) The strip Packaging process, (2). Corrugated Fibre Box & explain the new developments in CFB.	07
