

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2183610****Date:13/05/2019****Subject Name:Nanoscience Technology And Pharmaceutical Packaging Technology****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

		MARKS
Q.1	(a) What are the different culture media used in the sterility test of packaging materials?	03
	(b) Explain briefly the microbial destruction process in sterilization of packaging materials	04
	(c) Describe the Packaging Formats in Pharmaceutical industry.	07
Q.2	(a) Explain briefly characterization tests for Nanoparticles	03
	(b) Write a note on mechanical similarity of nanoformulation development	04
	(c) Explain spray drying method with neat labeled diagram for nanoparticles formulation	07
OR		
	(c) Explain in detail “Top down and Bottom up technology” for nanoparticle generation	07
Q.3	(a) What are the different culture media used in the sterility test of packaging materials?	03
	(b) Explain briefly the microbial destruction process in sterilization of packaging materials.	04
	(c) What are the different materials used in blister packaging? Explain the strip Packaging process.	07
OR		
Q.3	(a) Write a note on metal as packing material	03
	(b) What are the new trends in the Pharmaceutical packaging?	04
	(c) Classify the Packaging materials and give brief description on any two of the packaging material.	07
Q.4	(a) How packaging stability studies are undertaken	03
	(b) Define sterilization of packaging materials. What are the physical and chemical factors affecting the sterilization?	04
	(c) Write an account on quality control tests for glass containers	07
OR		
Q.4	(a) Differentiate between nanoparticles & micro particles	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.	07
Q.5	(a) Define solid lipid nanoparticles & polymeric nanoparticles	03
	(b) Write a note on the transportation test for secondary packaging materials	04
	(c) Describe in detail about the quality control tests used to characterize nanoparticles	07

OR

- Q.5** (a) Give applications of nanotechnology in pharmaceutical field **03**
(b) Give an account on functions of Packaging Materials **04**
(c) What are gold nanoparticles? Give its applications in detail **07**
