

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER-VIII EXAMINATION – WINTER -2022

Subject Code:BP814TT**Date: 23/12/2022****Subject Name: Pharmaceutical Product Development****Time: 02:30PM TO 05:30PM****Total Marks: 80****Instructions:**

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

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| Q.1 | (a) Describe Pharmaceutical Product development process with flow chart. | 06 |
| | (b) Classify types of solublizers. Discuss in detail about the different pharmaceutical solublizers available in market. | 05 |
| | (c) Write a note on stability assessment of semisolid dosage form. | 05 |
| Q.2 | (a) Discuss quality control test of capsule dosage form. | 06 |
| | (b) Explain in brief about excipients used for cream. | 05 |
| | (c) Write a note on Emulsifying agent. | 05 |
| Q.3 | (a) Enumerate different types of disintegrant. Discuss in brief about Superdisintegrant. | 06 |
| | (b) What is QbD? Describe advantages and challenges of QbD approach. | 05 |
| | (c) Enumerate different types of packaging materials. Discuss glass as a packaging material. | 05 |
| Q.4 | (a) Enumerate ideal requirements of excipients used for Aerosol. Discuss about Propellant. | 06 |
| | (b) Describe properties, types and applications of Cyclodextrins. | 05 |
| | (c) Discuss use and applications of factorial design in product development. | 05 |
| Q.5 | (a) Classify types of excipients used in tablet. Explain Diluents and Binder. | 06 |
| | (b) Discuss selection criteria and quality control test of plastic as a packaging material. | 05 |
| | (c) Write a note on Polyethylene glycols and Sorbitol's. | 05 |
| Q.6 | (a) Classify type of closures. Discuss quality control test of closures. | 06 |
| | (b) Write a note on Enteric and Non Enteric coating excipients. | 05 |
| | (c) Describe criteria for selection of excipients for parenteral dosage form. | 05 |
| Q.7 | (a) Describe objectives of optimization techniques in Product development. Explain various parameters of optimization techniques. | 06 |
| | (b) Enlist directly compressible excipients. Explain any two in detail. | 05 |
| | (c) Write a note on excipients used for formulation of NDDS. | 05 |
