

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm – SEMESTER - 3 EXAMINATION – SUMMER -2021

Subject Code: 2230002

Date: 02/09/2021

Subject Name: Pharmaceutical Engineering

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.**

Q-1

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|---|-----------|
| (a) Explain unit operation, unit processes and tie-substance. | 06 |
| (b) 'Reynolds number is unit less' comment and prove it. | 05 |
| (c) Discuss Belt conveyer. | 05 |

Q-2

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|--|-----------|
| (a) Classify flow meters. Write a note on any one of them. | 06 |
| (b) What is black body? Explain about the Stefan-Boltzmann law for black bodies. | 05 |
| (c) Discuss in brief overall heat transfer coefficient. | 05 |

Q-3

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|--|-----------|
| (a) Enumerate energy losses in pipe. Explain any two in detail. | 06 |
| (b) Give name of different valves and write about gate valve. | 05 |
| (c) Discuss about different types of pressure and differential manometer used to measure the pressure. | 05 |

Q-4

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| (a) Define corrosion. Describe galvanic corrosion and its prevention. | 06 |
| (b) Write short note on Glass as a material for plant construction | 05 |
| (c) Discuss types of fluid flow. | 05 |

Q-5

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|---|-----------|
| (a) Explain Bernoulli's theorem in detail. | 06 |
| (b) Write a short note on different modes of heat transfer. | 05 |
| (c) Write a short note : Steam as Heating media | 05 |

Q-6

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|--|-----------|
| (a) Classify heat exchange equipment. Discuss construction and working of single pass tubular heat exchanger | 06 |
| (b) Classify materials used for Pharmaceutical Plant construction. | 05 |
| (c) Explain briefly Bucket type steam trap. | 05 |

Q-7

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|--|-----------|
| (a) Derive corollary of Dalton's law and Amagat's law. | 06 |
| (b) Write a short note on different types of graphical presentation. | 05 |
| (c) Write a short note Color code for piping system in industry | 05 |