



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

InSem Examination-I Winter2024	
Exam Seat No.:	
Academic Year: 2024-2025	Semester: III
Class: SY	Program: B.Tech
Branch Code: CHE	Pattern: 2023
Name of Course: Mechanical Operations	Course Code: 2307202
Max. Marks:30	Duration: 1.15 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 1 page.
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. Question No 1 and Question No 3 are compulsory.

Marks CO

Question No. 1

- 1 a) Find out the operating speed of ball mill by using following data: (4) CO 1

Diameter of ball mill: 500 mm and Diameter of ball: 40 mm

- 1 b) What is Mesh number? Explain screen capacity. (3) CO 1

Question No. 2

- 2 a) Explain various factors effects on product size of Ball Mill. (8) CO 1

OR

- 2 b) Explain Rittiggers law. Calculate the power ratio to crush the coffee extract from 38 mm to 17 mm and from 10 mm to 6 mm. Use Rittinger's law (8) CO 1

Question No. 3

- 3 a) Write a short note on precipitator? (4) CO 2
3 b) Describe three types of sedimentation equipment commonly used in industrial processes? (3) CO 2

Question No. 4

- 4 a) Derive the Kynch theory with neat diagram and assumptions. (8) CO 2

OR

- 4 b) Describe the working mechanism of a magnetic separator and its typical applications. (8) CO 2

..... End of question paper.....