

Question Paper Code: 94904

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2021

Fourth Semester

Chemical Engineering

19UCH404 – MECHANICAL OPERATION

(Regulation 2019)

Duration: 1:45 hours

Maximum: 50Marks

PART – A (10 X 2 =20 Marks)
ANSWER ANY TEN QUESTIONS

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| 1. What is the importance of particle size analysis? | R | CO1 |
| 2. Can which mechanical methods used for size reduction? | AP | CO2 |
| 3. State three characteristics of solids? | R | CO1 |
| 4. Show that advantages of size reduction? | AP | CO2 |
| 5. Plot the size reduction equipment? | AP | CO2 |
| 6. What is an agglomeration? | R | CO1 |
| 7. Why is screening important in industrial processes? | R | CO1 |
| 8. Show that principle behind the separation? | AP | CO2 |
| 9. What is centrifugation separation? | R | CO1 |
| 10. State the three types of filtration? | U | CO1 |
| 11. What is meant by ultra filtration? | U | CO1 |
| 12. What equipment is used in filtration? | U | CO1 |
| 13. What is a pneumatic conveyor? | R | CO1 |
| 14. How did screw conveyor is used? | AP | CO2 |
| 15. What is the function of agitator? | R | CO1 |

PART - B (3X 10 =30 Marks)

ANSWER ANY THREE QUESTIONS

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| 1 | How did the techniques for size analysis are used? | AP | CO2 |
| 2 | Evaluate the Energy and Power Requirements in Comminution. | E | CO5 |
| 3 | Derive the material balance over the screen and find out the effectiveness factor. | AP | CO2 |
| 4 | Evaluate centrifugation operation and different centrifuges in chemical industry. | E | CO5 |
| 5 | Prove briefly about the Pneumatic conveyor. | AN | CO3 |