| | 210 | tion No : | | 210 | | 210 | | 210 | 210 | 210 |
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| Total | Numbe | er of Pages : 02 | 2 | 210 | | 210 | | 210 | | B.Tech |
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| 2 | 210 | 210 | 2 | 210 | | 210 : HB | | 210 | 210 | 210 |
| Ans | wer Qu | uestion No.1 (Pa | art-1) v | | | • | | y EIGHT fr | om Part-II and a | ny TWO |
| | | | - | | - | Part-III | | | _ | |
| | | The fig | ures ii | n the rig | ght ha | nd ma | argin i | indicate m | arks. | |
| | | | | | | rt- I | | | | |
| Q1 | | ly Short Answer | | | • | | • | | | (2 x 10) |
| | , | ferentiate⊧betweer fine screen efficie | | | | | een. | 210 | 210 | 210 |
| | | nat is the effect of | | | | | ion effi | ciency? | | |
| | • | fine: "Terminal Se | • | | | • | | , | | |
| | , | nat is the differenc | | | | nd clas | ssifier? |) | | |
| | - | fine the angle of n | - | | | ~ | | | | |
| | • | Differentiate between solid and liquid mixing What is the use is of filter aid and filter media? | | | | | | | | |
| | • | nat is power numb | | | | | | 210 | 210 | 210 |
| | j) Siz | Size reduction equipments, the maximum feed size can be accepted by which | | | | | | | 1 | |
| | cru | ısher? | | | | | | | | |
| | | | | | | rt- II | | | | |
| Q2 | | - | | • • | | tions- | (Ansv | wer Any Eig | ht out of Twelve) | (6 x 8) |
| | | fine (i) mesh and (| | | | ain in c | letail tl | ha construct | ion and working of | F |
| | | | | | | | | | 210 | 210 |
| | | the Ball mill with neat figure and the industrial application. 210 210 Perform a material balance over a screen and derive the effectiveness of a screen. | | | | | | | | |
| | • | Explain the factors affecting the rate of filtration. | | | | | | | | |
| | | With a neat sketch explain the working principle of a pneumatic conveyor. | | | | | | | | |
| | H DIS | Discuss various types of screening equipments. Write principle of comminution. Explain various laws of size reduction in detail. | | | | | | | | |
| | - | | nminuti | on, Expla | | | ws of s | size reductio | n in uetaii. | |
| | g) Wr | ite principle of con | | • | ain var | ious la | | | reduction of solic | |
| | g) Wr h) Ex wit | ite principle of con plain and differen h neat schematic | tiate op diagran | en and n. | ain var closed | ious la circui | t opera | ation for size | e reduction of solid | |
| 2 | g) Wr h) Ex wit i) Ex | ite principle of con plain and different h neat schematic plain in detail plate | tiate op diagran e and fr | en and n. ame filte | ain var closed r press | ious la circui s with i | t opera ts neat | ation for size | e reduction of soliced advantages. | 210 |
| 2 | g) Wr h) Ex wit i) Ex j) Wr | ite principle of con plain and different h neat schematic plain in detail plate nat is the differe | tiate op diagran e and fr ntial se | en and n. ame filte ettling m | ain var closed r press | ious la circui s with i | t opera ts neat | ation for size | e reduction of solid | 210 |
| 2 | g) Wr h) Ex wit i) Ex j) Wr sec | ite principle of con plain and different h neat schematic plain in detail plate nat is the differe dimentation with a | tiate op diagran e and fr ntial se pplicati | pen and n. ame filte ettling mon. | ain var closed r press nethod | ious la circui s with i ? Exp | t opera ts neat lain in | ation for size diagram an detail the | e reduction of solice of advantages. working of batch | 210 |
| 2 | g) Wr h) Ex wit i) Ex j) Wr sec k) De | ite principle of con plain and different h neat schematic plain in detail plate nat is the differe | tiate op diagran e and fr ntial se pplication t mixing | pen and n. ame filte ettling mon. g equipm | ain var closed r press nethod | ious la circui s With i ? Exp sed fo | t opera ts neat lain in r solid | ation for size diagram an detail the | e reduction of solice of advantages. working of batch | 210 |
| 2 | g) Wr h) Ex wit i) Ex j) Wr sec k) De | ite principle of con plain and different h neat schematic plain in detail plate nat is the differe dimentation with a scribe the differen | tiate op diagran e and fr ntial se pplication t mixing | pen and n. ame filte ettling mon. g equipm | ain var closed r press nethod nents u | ious la circui s with i ? Exp sed fo t diagra | t opera ts neat lain in r solid | ation for size diagram an detail the | e reduction of solice of advantages. working of batch | 210 |
| 2 | g) Wr h) Ex wit i) Ex j) Wr sed k) De I) Wr | ite principle of con plain and different h neat schematic plain in detail plate nat is the differe dimentation with a scribe the differen | tiate op diagran e and fr ntial se pplication t mixing rotary | oen and n. ame filte ettling m on. g equipm filters wit | ain var closed r press nethod nents u th near | ious la circui s with i ? Exp sed for t diagra | t opera ts neat lain in r solid am. | ation for size diagram an detail the mixing in bri | e reduction of solice of advantages. working of batch ef. | 210 |
| Q3 ² | g) Wr h) Ex wit i) Ex j) Wr sec k) De l) Wr | ite principle of conplain and different h neat schematic plain in detail plate at is the differed dimentation with a scribe the different a short note on the lite a short note of the lite in a short | tiate op diagran e and fr ntial so pplication t mixing rotary Type C p and (| pen and n. ame filte ettling mon. g equipm filters with the filters with t | ain var closed r press nethod nents u th near Pa s (Ans g index | ious la circui s with i ? Exp sed fo t diagra rt-III swer A .(iii) ar | t operates neat lain in solid am. ny Twagle of | ation for size diagram and detail the mixing in bri o out of For | e reduction of solice reduction of solice deviation of solice devi | 210 (8) ⁰ |
| Q3 ² | g) Wr h) Ex wit i) Ex j) Wr sec k) De l) Wr | ite principle of conplain and different heat schematic plain in detail plate at is the different dimentation with a scribe the different a short note on the light of nia ball mill of diameted | tiate op diagran e and fr ntial se pplication t mixing rotary Type C p and (eter 200 | n. ame filte ettling m on. g equipm filters with uestion ii) mixing | ain var closed r press nethod nents u th near Pa s (Ans g index 00 mn | ious la circuir s With ir ? Exp sed for t diagra rt-III swer A .(iii) ar n dia. s | ts neat lain in r solid am. ny Tw agle of steel ba | ation for size diagram and detail the mixing in bri o out of For repose alls are being | e reduction of solice reduction of solice defends and advantages. working of batchef. ef. 210 g used for grinding. | (8) ⁰ (8) |
| Q3 ² | g) Wr h) Ex wit i) Ex j) Wr sec k) De l) Wr | ite principle of conplain and different h neat schematic plain in detail plate at is the different dimentation with a scribe the different a short note on the lite a short note on the lite is a short note of the lite is a shor | tiate op diagran e and fr ntial se pplication t mixing rotary Type C p and (eter 200 aterial b | pen and n. ame filte ettling mon. g equipm filters with the filters with t | r press nethod nents u th near Pa s (Ans j index 00 mn | ious la circuir s with ir ? Exp sed for t diagra rt-III swer A .(iii) ar n dia. s he mill | ts neat lain in r solid am. .ny Tw igle of is run | ation for size diagram and detail the mixing in brive o out of For repose alls are being at 15 rpm. | e reduction of solice reduction of solice deviation of solice devi | (8) ° (8) |

| Q4 Q5 | a) b) 210 | Draw neat sketch of an agitated vessel and label the important parts. An agitated baffle vessel is being used to prepare a uniform solution of viscosity 2 cP, running the agitator at 100 rpm, so as to obtain a Reynolds number of 50,000. If the contents of the vessel are replaced by a solution of viscosity 4 cP, and the agitator rpm is increased to 200, by how much will the power requirement change? Describe the different mixing equipments used for solid mixing in brief. In a filter press, at a constant pressure difference of 2.8 kg/cm², a 10cm cake is formed in one hour with a filtrate volume of 6000 lits. Washing proceeds exactly as filtration using 1500 liter. All other operation takes 10 mins time. Assume the filtrate has same properties of wash water. The rate of washing is 0.25 times the final filtration rate. Calculate the volume of filtrate produced in one day of operation. | | | | | | | | | |
|----------|-----------------|--|-----|-----|-----|-----|-----|--|--|--|--|
| Q6 | a) b) | Explain in brief: Sink and float method of sorting classifiers. Calculate the power required to crush 120 tones/hr of limestone if 80 % of the feed passes through a screen 3.74 cm aperture and 80 % of the product passes through a screen with 0.04 cm aperture. The work index for lime stone is 12.75, when the capacity is expressed in tones/min, power required in HP and size of feed and product in feet. | | | | | | | | | |
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