Q.P. Code:	18AC	30705
------------	------	-------

 b Define angle of repose and coefficient of friction. c What are the responsibilities of vibration screen? d What are the characteristics of comminuted products? e Explain hydrothermal treatment of wheat. 2 e Explain hydrothermal treatment of wheat. 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. CUNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Explain Rolling resistance with neat sketch. COR 5 a Explain Rolling resistance with neat sketch. CUNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	Q.P.	Coc	le: 18AG0705	18
SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR (AUTONOMOUS) B.Tech III Year I Semester Supplementary Examinations August-2021 AGRICULTURAL PROCESS ENGINEERING (Agricultural Engineering) Time: 3 hours PART-A (Answer all the Questions 5 x 2 = 10 Marks) 1 a Define specific gravity. List out the methods for determination of specific gravity. 2 b Define angle of repose and coefficient of friction. 2 c What are the responsibilities of vibration screen? 2 d What are the characteristics of comminuted products? 2 e Explain hydrothermal treatment of wheat. 2 Colspan="2">OMarks) UNIT-1 2 A Briefly explain the importance of engineering properties of biomaterial materials. Define bulk density, true density, apparent density with suitable equations and neat sketch. b Define terminal velocity and derive equation for terminal velocity of a fluid. OR A screen is used to separate two components (A and B) from a feed where F, O and S UNT-11 4 a A screen is used to separate two components (A and B) from a feed where F, O and S UNT-11 5 4 a A screren is used to separate two components (A and	Reg	. N	0:	
B.Tech III Year I Semester Supplementary Examinations August-2021 AGRICULTURAL PROCESS ENGINEERING (Agricultural Engineering) Fime: 3 hours Max. Marks: (<u>PART-A</u> (Answer all the Questions 5 x 2 = 10 Marks) 1 a Define specific gravity. List out the methods for determination of specific gravity. 2 b Define angle of repose and coefficient of friction. 2 c What are the responsibilities of vibration screen? 2 d What are the characteristics of comminuted products? 2 e Explain hydrothermal treatment of wheat. 2 2 e Explain hydrothermal treatment of wheat. 2 2 a Briefly explain the importance of engineering properties of biomaterial materials. 5 b Write the applications of Physical, mechanical, thermal and electrical properties of 5 biological materials. 0 7 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. 5 b Define bulk density, true density, apparent density with related expressions. 5 2 7 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	18	S		
AGRICULTURAL PROCESS ENGINEERING (Agricultural Engineering) Max. Marks: (Agricultural Engineering) Ime: 3 hours Max. Marks: (Answer all the Questions 5 x 2 = 10 Marks) 1 a Define specific gravity. List out the methods for determination of specific gravity. 2 b Define angle of repose and coefficient of friction. 2 c What are the responsibilities of vibration screen? 2 d What are the characteristics of comminuted products? 2 e Explain hydrothermal treatment of wheat. 2 PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I 2 a Briefly explain the importance of engineering properties of biomaterial materials. 5 b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. 5 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. 5 b Define bulk density, true density, apparent density with related expressions. 5 UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define bulk density, true density apparent density with related expressions. 5 UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body im				
(Agricultural Engineering) Max. Marks: (PART-A (Answer all the Questions 5 x 2 = 10 Marks) I a Define specific gravity. List out the methods for determination of specific gravity. 2 b Define agle of repose and coefficient of friction. 2 c What are the responsibilities of vibration screen? 2 d What are the characteristics of comminuted products? 2 e Explain hydrothermal treatment of wheat. 2 PART-B (Answer all Five Units 5 x 10 = 50 Marks) 1 UNIT-1 2 a Briefly explain the importance of engineering properties of biomaterial materials. 5 b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. 5 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. 5 b Define bulk density, true density, apparent density with related expressions. 5 UNIT-11 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 c Explain Rolling resistance with neat sketch. 5 b Explain the				
PART-A (Answer all the Questions 5 x 2 = 10 Marks) 1 a Define specific gravity. List out the methods for determination of specific gravity. 2 b Define angle of repose and coefficient of friction. 2 c What are the responsibilities of vibration screen? 2 d What are the characteristics of comminuted products? 2 e Explain hydrothermal treatment of wheat. 2 <i>PART-B</i> (Answer all Five Units 5 x 10 = 50 Marks) 2 <i>UNIT-1</i> 2 a Briefly explain the importance of engineering properties of biomaterial materials. 5 b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. 5 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. 5 b Define bulk density, true density, apparent density with related expressions. 5 <i>UNIT-1</i> 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 b Explain Rolling resistance with neat sketch 5 b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. 5 b Explain the friction testing apparatus used in studying friction forces causing			(Agricultural Engineering)	
 (Answer all the Questions 5 x 2 = 10 Marks) 1 a Define specific gravity. List out the methods for determination of specific gravity. b Define angle of repose and coefficient of friction. c What are the responsibilities of vibration screen? d What are the characteristics of comminuted products? e Explain hydrothermal treatment of wheat. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. OR 5 a Explain Rolling resistance with neat sketch b Zaplain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. OR 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5. UNIT-II 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5. U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in feed were 6.5%, (iii) The overflow	Fime	:3 ł		: 60
 a Define specific gravity. List out the methods for determination of specific gravity. b Define angle of repose and coefficient of friction. c What are the responsibilities of vibration screen? d What are the characteristics of comminuted products? e Explain hydrothermal treatment of wheat. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Explain Rolling resistance with neat sketch OR 5 a Explain Rolling resistance two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow				
 b Define angle of repose and coefficient of friction. c What are the responsibilities of vibration screen? d What are the characteristics of comminuted products? e Explain hydrothermal treatment of wheat. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. S UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Explain Rolling resistance with neat sketch b Explain Rolling resistance with neat sketch. 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	1	0		2M
 c What are the responsibilities of vibration screen? d What are the characteristics of comminuted products? e Explain hydrothermal treatment of wheat. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define treminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in feed were 6.5%, (iii) The overflow 	2			21VI 2M
 d What are the characteristics of comminuted products? e Explain hydrothermal treatment of wheat. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid b Define terminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following fata were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow 				2M
 e Explain hydrothermal treatment of wheat. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-I 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 Define terminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The overflow 				2M
PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-1 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. 0R 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-1 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 a Explain Rolling resistance with neat sketch 6 b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-11 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5 U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow				2M
 UNIT-1 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-11 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 befine terminal velocity and derive equation for terminal velocity of a fluid. 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5 U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
 2 a Briefly explain the importance of engineering properties of biomaterial materials. b Write the applications of Physical, mechanical, thermal and electrical properties of biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid b Define terminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following fata were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 			(Answer all Five Units $5 \ge 10 = 50$ Marks)	
 b Write the applications of Physical, mechanical, thermal and electrical properties of 5 biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 OR 5 a Explain Rolling resistance with neat sketch 5 b Explain the friction testing apparatus used in studying friction forces causing 5 skinning of potatoes with neat sketch. 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5 U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 			UNIT-I	
 biological materials. OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5 U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	2	a	Briefly explain the importance of engineering properties of biomaterial materials.	5M
OR 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. 5 b Define bulk density, true density, apparent density with related expressions. 5 united true united true 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 core 0R 5 a Explain Rolling resistance with neat sketch 5 b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. 5 luare taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. 5 b During the evaluation of an air screen grain cleaner with two screens the following data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow		b	Write the applications of Physical, mechanical, thermal and electrical properties of	5N
 3 a Explain roundness, roundness ratio and sphericity with suitable equations and neat sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid 5 b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 a Explain Rolling resistance with neat sketch 5 b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 			biological materials.	
 sketch. b Define bulk density, true density, apparent density with related expressions. UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid b Define terminal velocity and derive equation for terminal velocity of a fluid. 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following fata were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
 UNIT-II 4 a What is a drag coefficient? Draw the forces acting on a body immersed in fluid b Define terminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following fata were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	3	a		5M
 b Define terminal velocity and derive equation for terminal velocity of a fluid. OR 5 a Explain Rolling resistance with neat sketch 5 Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following fata were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 		b		5M
 OR 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	4	a	What is a drag coefficient? Draw the forces acting on a body immersed in fluid	5M
 5 a Explain Rolling resistance with neat sketch b Explain the friction testing apparatus used in studying friction forces causing skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 		b	Define terminal velocity and derive equation for terminal velocity of a fluid.	5M
 b Explain the friction testing apparatus used in studying friction forces causing 5 skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 			OR	
 skinning of potatoes with neat sketch. UNIT-III 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	5	a		5M
 6 a A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 		b		5M
 6 a A screen is used to separate two components (A and B) from a feed where F, O and 5 U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
 U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
 respectively. The corresponding mass fraction of the oversize component A in these streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 	6	a		5M
 streams is XF, Xo and Xu. Derive an expression for overall effectiveness of this screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
 screen. b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
 b During the evaluation of an air screen grain cleaner with two screens the following 5 data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow 				
data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow		h		5M
present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow		D		5M
seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow				
in the order of the order of the ordening officially of the order of			contained 0.5% clean seed. Compute the cleaning efficiency of the cleaner.	

R18

OR

		O K	
7	a	Explain disk separator with neat sketch	5M
	b	Explain the working principle of indented cylinder separation with neat sketch.	5M
		UNIT-IV	
8	a	Explain working principle of Ball mill with neat sketch.	6M
	b	What would be the operating speed of rotations per minute of ball mill of 2000 mm	4M
		diameter charged with 100 mm balls? Ball mill grinding solid matter.	
		OR	
9	a	Write the classification of size reduction equipment's.	5M
	b	Write the operation ranges of size reduction equipment for solids.	5M
		UNIT-V	
10	a	Write the importance of oil seed processing.	5M
	b	Explain oil expression and oil extraction.	5M
		OR	
11	a	Write the advantages and disadvantages of parboiling.	5M
	b	Explain CFTRI method of parboiling.	5M

END