Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER – III • EXAMINATION – WINTER 2015

Subject Code: 3330502 **Date: 12 /12 /2015**

Subject Name: Mechanical operation

Time: 10:30 AM TO 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Each question carry equal marks (14 marks)**

Q.1	(a)	Explain : Agitation vessel with figure	**07**
	(b)	Derive equation for critical speed in Ball mill.	**07**
Q.2	(a)	Explain : Swirling and vortex formation.	**07**
	(b)	Classify : Size reducing equipments.	**07**
		OR	
	(b)	Derive equation for Angle of Nip.	**07**
Q.3	(a)	Describe Filter press in detail.	**07**
	(b)	Explain : Rotary filter.	**07**
		OR	
Q.3	(a)	Write requirements of filter media.	**07**
	(b)	Explain : Constant rate filteration and constant rate filteration.	**07**
Q.4	(a)	Explain : Muller mixer with figure.	**07**
	(b)	Explain: Banbury mixer.	**07**
		OR	
Q. 4	(a)	Write about Mixing index in detail.	**07**
	(b)	Compare ideal and actual screen.	**07**
Q.5	(a)	Derive equation for overall efficiency of Screen.	**07**
	(b)	Write short note on cyclone separator.	**07**
		OR	
Q.5	(a)	Explain unit operation and unit process in detail.	**07**
	(b)	Explain : Jigging.	**07**

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