Scheme of Valuation (Scheme of evaluation (marks in brackets) and answers of problems/key)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: CH203

Course Name: PARTICLE TECHNOLOGY

Max. Marks: 100			Duration: 3 Hours

PART A

		Answer any two full questions, each carries 15 marks.	Marks
1	a)	Subsieve technique definition -2 marks Subsieve techniques -2 marks Explanation -4 marks	
	b)	Find x_i/Dp_i -2 marks $\sum x_i/Dp_i = 123.543$ -1 mark Finding area =950.33 cm²/g -2 marks Finding sauter diameter=0.008094 cm -2 marks	()
2	a)	Figure (4 stages and zones) -4 marks Explanation – 4 marks	()
	b)	Figure of rake classifier- 3 marks Explanation – 4 marks	
3	a)	Each method like sauter diameter with equation -2 marks	
	b)	Figure – 3 marks Explanation -4 marks	

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Finding K=160 m^6/hr (2 marks) Rate of filtration =2 m^3/hr (2 marks) Rate of washing =0.5 m^3/hr (2 marks) Time of washing =vol.of wash liquid /rate of washing =7 hrs (2 marks)	()
	b)	Figure -3 marks Explanation – 4 marks	()
5	a)	Mentioning name of filter press like plate and frame, leaf filter -1 marks Figure -3 marks Working- 4 marks	
	b)	Figure -3 marks Explanation -4 marks	
6	a)	Four Factors affecting rate of filtration -1 mark each Four specifications of a filter media-1 mark each	
	b)	Advantages -2 marks Disadvantages -2 marks Applications -3 marks	
		PART C	
		Answer any two full questions, each carries20 marks.	
7	a)	Finding speed in rps -1 mark Finding cos θ =0.295 -3 marks Finding N=0.244 rps -3 marks Change the speed in rpm (14.67 rpm) and writing the correction for speed of ball mill- 2 marks Units properly -1 mark	()
	b)	Methods of size reduction -4 marks (1 mark for each method like impact, attrition, compression, shear) Factors for the selection of size reduction equipment -6 marks (1 mark for each)	()
8	a)	Storing methods -5 marks Problems associated with with bulk flow -5 marks	
	b)	Figure with markings – 3 marks Explanation with working,advantages,disadvantages,applications -7 marks	

9	a)	Find S_o^2 (0.21) -1 mark	
		Find S_r^2 (0.0084) -1 mark	
		Find Mixing index after 5 min (0.694) -2 mark	
		Obtain K=0.0394 -1 mark	
		Find New mixing index for variance of 0.025 =0.917 -2 mark	
		Time for mixing= 633 s -1 mark	
		Additional time required =5.55 min and units -2 marks	
	b)	Identifying crusher (Jaw crusher)-1 marks	
		Figure – 3 marks	
		Explanation with working,types,advantages,disadvantages,applications -6 marks	
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