

Reg.No. _____



Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : 14FP3017
Sub. Name : Food Industry Waste Management

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Paraphrase the key drivers for waste management in developed countries (examples if any to thrust home your point)	CO1	10
	b.	Paraphrase the key drivers for waste management in under developed countries (examples if any to thrust home your point)	CO1	10
(OR)				
2.	a.	Paraphrase the Ozone Depleting Substances (Regulation & Control) Rules, 2000	CO1	10
	b.	Summarize the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules of 2008	CO1	10
3.	a.	Illustrate the chemical methods of treatment used in waste management.	CO1	10
	b.	Paraphrase the mechanisms of bioenergy production from organic waste for the following biofuels. Mention their merits. (include flow charts or any diagrams if mandated)	CO2	
	i.	Hydrogen		5
	ii.	Methane		5
(OR)				
4.	a.	Illustrate the physical methods of treatment used in waste management.	CO1	10
	b.	Paraphrase the mechanisms of Ethanol production from organic waste. Mention their merits. (include flow charts or any diagrams if mandated)	CO2	10
5.	a.	Why is there a need for bioenergy? Write a note on treatment of waste from hostel mess waste.	CO3	10
	b.	Paraphrase the Water (Prevention and Control of Pollution) Act, 1974.	CO1	10
(OR)				
6.	a.	Describe the optimization of a dumpsite or landfill operations site? Draw necessary diagrams to illustrate the rationale behind the design	CO2	20
7.	a.	Illustrate the recycling methodology of the following solid waste and the alarming global data which logically backs the concept of recycling rather than incineration.	CO3	20
	i.	Paper		
	ii.	Glass		
	iii.	Plastics		
(OR)				
8.	a.	Define Bioconversion. Demonstrate how dairy waste can be converted into high value products.	CO3	10
	b.	Illustrate the principles (please use imaginary situations to illustrate) of	CO1	
	i.	Polluter Pays		5
	ii.	Lifting of the cooperate veil		5
<u>Compulsory:</u>				
9.	a.	Illustrate the operations in a waste water treatment plant with neat diagrams and flow chart.	CO3	20

ALL THE BEST