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# B.Sc. (Part—II) Semester—IV Examination INDUSTRIAL CHEMISTRY (R/V)

(Material Science and Industrial Pollution)

<ul> <li>.B.:—(1) Question No. 1 is compulsory and carries 8 marks.</li> <li>(2) Remaining all questions carry 12 marks each.</li> <li>(3) Draw diagram wherever necessary.</li> <li>(4) Use of scientific calculator is allowed.</li> </ul>	ima . T	huaa	Hannel	a maasiriar j	Account to see
(2) Remaining all questions carry 12 marks each. (3) Draw diagram wherever necessary. (4) Use of scientific calculator is allowed.  (A) Fill in the blanks: (i) Thermoplastic polymers become on heating. (ii) Alum is the most popular used both in water and waste water treatment. (iii) Oxides of carbon, sulfur and nitrogen are the examples of air pollutant. (iv) Decibel is the unit for the measurement of level. 2  (B) Choose the correct alternatives from the following: (i) Which of the following is a synthetic polymer?  (a) Wool					[Maximum Marks : 80
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		(ii)	Define Air Pollution.		
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2.	(A)	What are ceramics? Give the types of ceramics and its applications.	4
	(B)	Explain the following types of glass:	
		(i) Soda-lime glass	
		(ii) Potash-lime glass.	4
	(C)	Discuss any two formation processes of ceramics.	4
		OR	
3.	(P)	Give the raw materials required for manufacture of refractories.	4
	(Q)	Draw and explain the manufacture of glass by pot furnace process.	4
	(R)	Explain the formation process of ceramics:	
		(i) Slip casting	
		(ii) Soft mud process.	4
		UNIT—II	
4.	(A)	Draw and explain manufacture process of cement by wet process.	4
	(B)	Explain the procedure for testing the tensile strength of cement.	4
	(C)	Discuss the high alumina cement with advantages and disadvantages.	4
		OR	
5.	(P)	Describe the setting and hardening of cement.	4
	(Q)	Discuss the following testing methods of cement:	
		(i) Fineness	
		(ii) Specific gravity.	4
	(R)	Discuss any four additives of cement.	4
		UNIT—III	
6. ,	(A)	Discuss Organic and Inorganic Polymer.	4
	(B)	Explain the manufacturing of Teflon.	4
	(C)	Give the properties and applications of nylon 6:6.	4
		OR	
7.	(P)	Explain the manufacturing of Polystyrene.	4
	(Q)	Give an account of addition and condensation polymerization.	4
	(R)	Give the properties and applications of polyethylene.	4

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8.	(A)	Discus the following quality parameters of water:					
		(i) Acidity					
		(ii) Alkalinity.	4				
	(B)	Explain water pollution due to paper industry.	4				
	(C)	Discuss water pollution due to mineral acid.	4				
		OR					
9.	(P)	Explain the following water quality parameters:					
		(i) COD					
		(ii) BOD.	6				
	(Q)	Give any four standard (maxium permissible limits) for drinking water as per WF	IO. 2				
	(R)	Discuss water pollution due to Arsenic heavy metal.	4				
		UNIT—V					
10.	(A)	Give an account of coagulation method of waste water treatment.	4				
	(B)	Discuss prelimnary treatment of waste water.	4				
	(C)	Explain activated sludge process.	4				
		AC					
11.	(P)	Explain chlorination and U.V. irradiation methods of sterilization.	4				
	(Q)	Give an account of trickling filter.	4				
	(R)	Discuss adsorption and evaporation methods of water treatment for inorganic chemical	als. 4				
		UNIT—VI					
12.	(A)	Draw and explain electrostatic precipitator used in air pollution control.	4				
	(B)	Discuss any four methods of noise pollution control.	4				
	(C)	How is Solid Particulate Matter (SPM) determined with the help of high volusampler ?	me 4				
OR							
13.	(P)	Explain the classification of air pollutants.	4				
	(Q)	Discuss harmful effects of hydrocarbons on human being and plants.	4				
	(R)	Give an account of absorption method for collection of air samples.	4				



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