

Sy

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
Winter End Semester Examination – Dec. 2019

Course: Second Year B. Tech

Sem: III

Subject: Advanced Engineering Chemistry (BTBSC305/BTBSE3405A)

Marks: 60

Date: 19/12/2019

Duration: 3 Hr.

Instructions to the Students:

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
3. Illustrate your answers with neat sketches, diagrams etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it.

		(Level /CO)	Marks
Q.1	Solve Any Two of the following.		
	a) Write a note on Galvanic corrosion.	01	06
	b) What is Cathodic protection? Explain methods to minimise the rate of corrosion.	01	06
	c) Explain Proper Designing method to prevent corrosion.	01	06
Q.2	Solve Any Two of the following		
	a) Explains the different laws of Photochemistry.	02	06
	b) What are Thermal reactions? Give mechanism of Cope reaction.	02	06
	c) Explain the term Fluorescence and Phosphorescence with the help of a Jablonski diagram.	02	06
Q.3	Solve Any One of the following		12
	a) Describe Addition polymerisation and Co-polymerisation Reaction.	03	
	b) Explain in details Moulding of plastics by Injection method.	03	
Q.4	Solve Any Two of the following		
	a) Write a short note on: Carbocation and Carbanion.	04	06
	b) Explain the mechanism of the following reaction. (i) Beckmann Rearrangement (ii) Orton Rearrangement.	04	06
	c) Explain Homolytic and Heterolytic bond fission with suitable example.	04	06
Q.5	Solve Any Two of the following		
	a) Explain the laws of Absorption. [i] Lamberts law [ii] Beers law [iii] Beer-Lamberts law.	05	06
	b) Explain the instrumentation and working of Infrared (IR) Spectrophotometer.	05	06
	c) Explain the instrumentation of single beam UV-Visible Spectrophotometer.	05	06
Q.6	Solve Any Two of the following.		
	a) Write a note on Adsorption Chromatography and Partition Chromatography.	06	06
	b) Explain Instrumentation and Applications of Thermo gravimetric analysis.	06	06
	c) Explain principle and components of Thin Layer Chromatography.	06	06

